

The Stout Training Schools

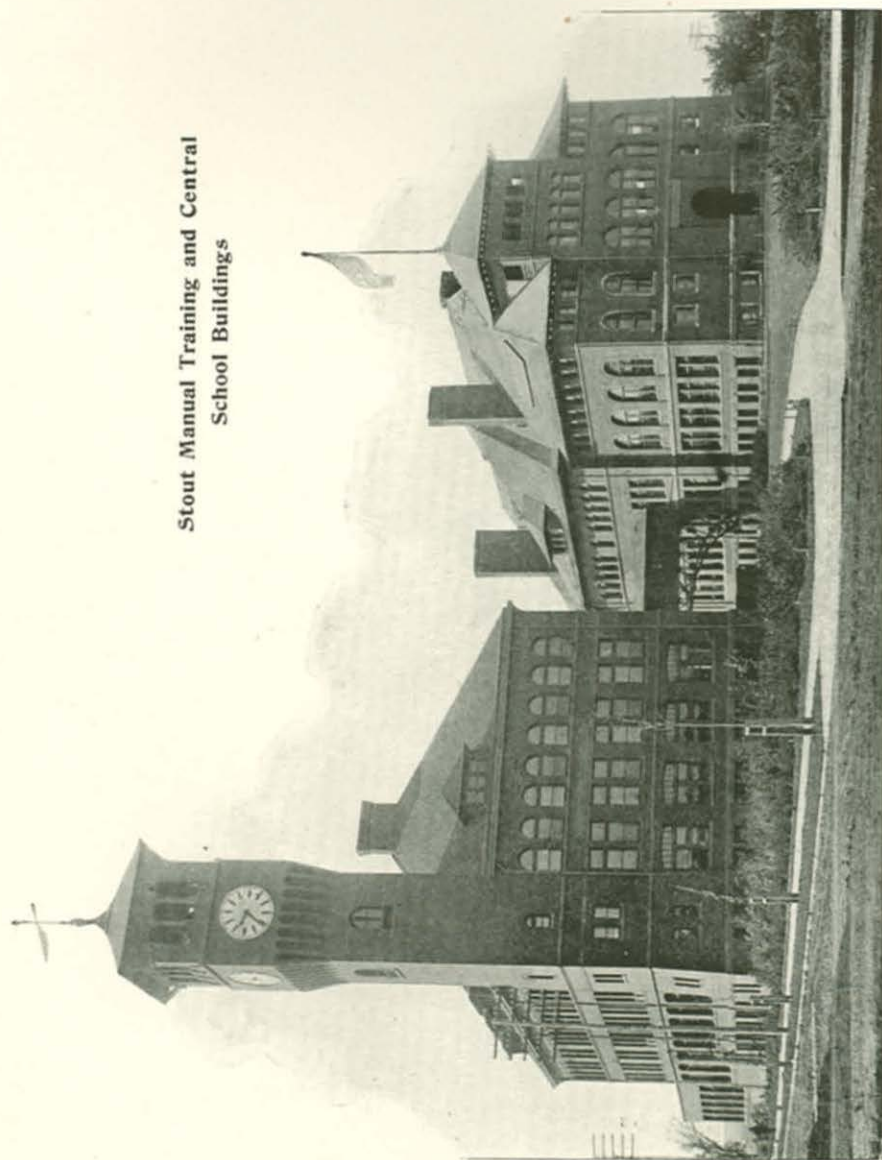


MENOMONIE
WISCONSIN

*For the
Preparation of Teachers of Manual
Training, Teachers of Domestic
Science, and Kindergarten
Teachers*

Circular of Information—School Year 1905-1906

Stout Manual Training and Central
School Buildings



THE

Stout Training Schools

FOR THE PREPARATION OF

Manual Training Teachers,
Domestic Science Teachers,
and Kindergarten Teachers,

MENOMONIE, WISCONSIN.

Under the Management of
THE BOARD OF EDUCATION.

OFFICERS OF Administration and Instruction

SCHOOL YEAR 1905-6

Board of Education

HON. J. H. STOUT, PRESIDENT,
JOHN R. MATHEWS, OTTO G. ANDERSON,
ALFRED PILLSBURY.

Superintendent

L. D. HARVEY.

Instructors

L. D. Harvey, Superintendent of Schools, Psychology and Pedagogy,
and General Superintendent of Professional Work.

Milton College, 1872; High School Principal, 1873-1879; City Superintendent, 1880-1885; Normal Schools, 1885-1898; State Superintendent, 1889-1902; Stout Training Schools, 1903—

John H. Mason, Director of Training School for Manual Training
Teachers; Mechanical Drawing and Machine Shop Practice.

Worcester Polytechnic Institute, Department Mechanical Engineering, 1882; engaged in professional work with various manufacturing concerns, 1882-1889; teacher of mathematics, drawing, and manual training, Hillside Home School, Hillside, Wis., 1889-1891; teacher of drawing and manual training, Stout Manual Training School, Menomonie, Wis., 1891-1893; associate professor of manual training, a director of the department of manual training, and secretary of the faculty, Teachers College, Columbia University, 1893-1898; teacher of mathematics, drawing, and manual training, Stout Manual Training School, 1899-1905; Stout Training Schools, 1903—

Miss Laura G. Day, Director of Training School for Domestic Science Teachers; Food Materials and Food, Household Economy and Management.

Kansas State Agricultural College, 1893; post-graduate work domestic science, 1893-1894. Assistant in domestic science and arts department, Kansas State Agricultural College, 1894-1895; teacher of domestic science and arts, Stout Manual Training School, Menomonie, Wis., 1895-1900; special lecturer and director of department of domestic economy, Purdue University, La Fayette, Ind., 1901-1902; Stout Training Schools, 1903—

Mrs. Martha Logsdon-Coull, Director of Kindergarten Training School; Supervisor of Kindergartens and Primary Schools; Theory and Practice of the Kindergarten and Primary School; History of Education, and Construction Work for Primary Grades.

Indiana Kindergarten and Primary Normal Training School, kindergarten and primary course, 1893; normal department, 1894; supervisor of kindergartens and primary grades, in last named school; instructor in theory and practice in same school, three years; supervisor of domestic training schools and kindergartens, in connection with charity work in Washington, D. C., one year; supervisor of kindergartens, Menomonie, Wis., 1898-9; Supervisor of kindergartens and primary schools, and principal of training school, 1899—

Miss Kate Murphy, Director of Art Department of Stout Manual Training School; Drawing, Color Work, Design and Illustration.

St. Louis School of Fine Arts, 1887-9; director art department Elmwood Normal School, Farmington, Mo., 1888-9; New York School of Technical Design, 1889-90; New York Studios, 1890-2; teacher of drawing in public schools of Chicago, 1893-4; director of art department of Manual Training School, and supervisor of drawing in the grades, Menomonie Public Schools, 1894—

N. J. MacArthur, Director of School of Physical Training; Theory and Practice of Physical Training.

Collegiate Institute at Collingwood, Ont., 1885-6; Model School, Durham, Ont., 1886-7; taught school, 1887-8-9; Collegiate Institute at Owen Sound, 1890-1; University of Toronto, 1891-5, B. A.; principal of High School, Albert Lea, Minn., 1895-6; superintendent of schools, Le Sueur, Minn., 1896-7; Harvard School of Physical Training, Summers, 1896 and 1899; director of physical training and instructor in athletics, St. Cloud (Minn.) State Normal School, 1897-1901; director School Physical Training, Menomonie, 1902—

Miss Carolyn Bornheim, Assistant, School of Physical Training, Normal School, North American Gymnastic Union, 1903.

S. H. Metcalf, Director of Music in Public Schools; Theory of Music. Note Reading, Kindergarten Songs, and Chorus Work.

Albert G. Bauersfeld, Elementary Wood-working, and Supervisor of Manual Training in the Grades.

Richard T. Crane Manual Training High School, Chicago, 1898; Chicago Normal School, 1899-1900; special work, Lewis Institute of Technology, 1900; manual training teacher, James McCosh School, Chicago, 1900-1901; assistant, manual training department, Chicago Normal School, 1901-1903; teachers' extension department, University of Chicago, 1902-1903; Stout Training Schools, 1903—

S. S. Judd, Joinery, Foundry Practice, Forging, and Machine Shop Practice.

St. Louis Manual Training School, 1891; director mechanical department, Missouri School for the Blind, St. Louis, Mo., 1893-1899; St. Louis Public Schools, 1899-1900; Stout Training Schools, 1903—

Miss Gertrude Reinhart, Food Work and Assistant in Domestic Economy.

Toledo High School and Toledo Polytechnic, 1901; normal course domestic science, Pratt Institute, 1903; Stout Training Schools, 1903—

Miss Anna K. Flint, Sewing, Dressmaking, and Millinery.

University of Wisconsin, 1895; assistant, Durand High School, 1895-1897; special work domestic science, Stout Manual Training School, 1898-1900; teacher of sewing and assistant in domestic science department, Stout Manual Training School, 1900; Stout Training Schools, 1903—

_____, Assistant in Domestic Art.

Miss Cora Barron, Critic Teacher and Director of the Codington Kindergarten; Gifts, Stories, Games, and Manual Work.

Stout Kindergarten and Primary Training School, Menomonie, Wis., 1903; Indiana Kindergarten and Primary Normal Training School (Normal course), Indianapolis, 1904; director of Yandes St. Kindergarten, Indianapolis, 1904; director of Codington Kindergarten, Menomonie, Wis., 1904—

Miss Katherine B. Shepherd, Critic Teacher and Director of Central Kindergarten; Occupations and Manual Work.

Cook County Normal School, 1895-7; Chicago Kindergarten Institute, 1898-1900; director Central Kindergarten, 1900—

Miss Mary Ehrhard, Critic Teacher and Director North Menomonie Kindergarten; Clay Modeling and Manual Work.

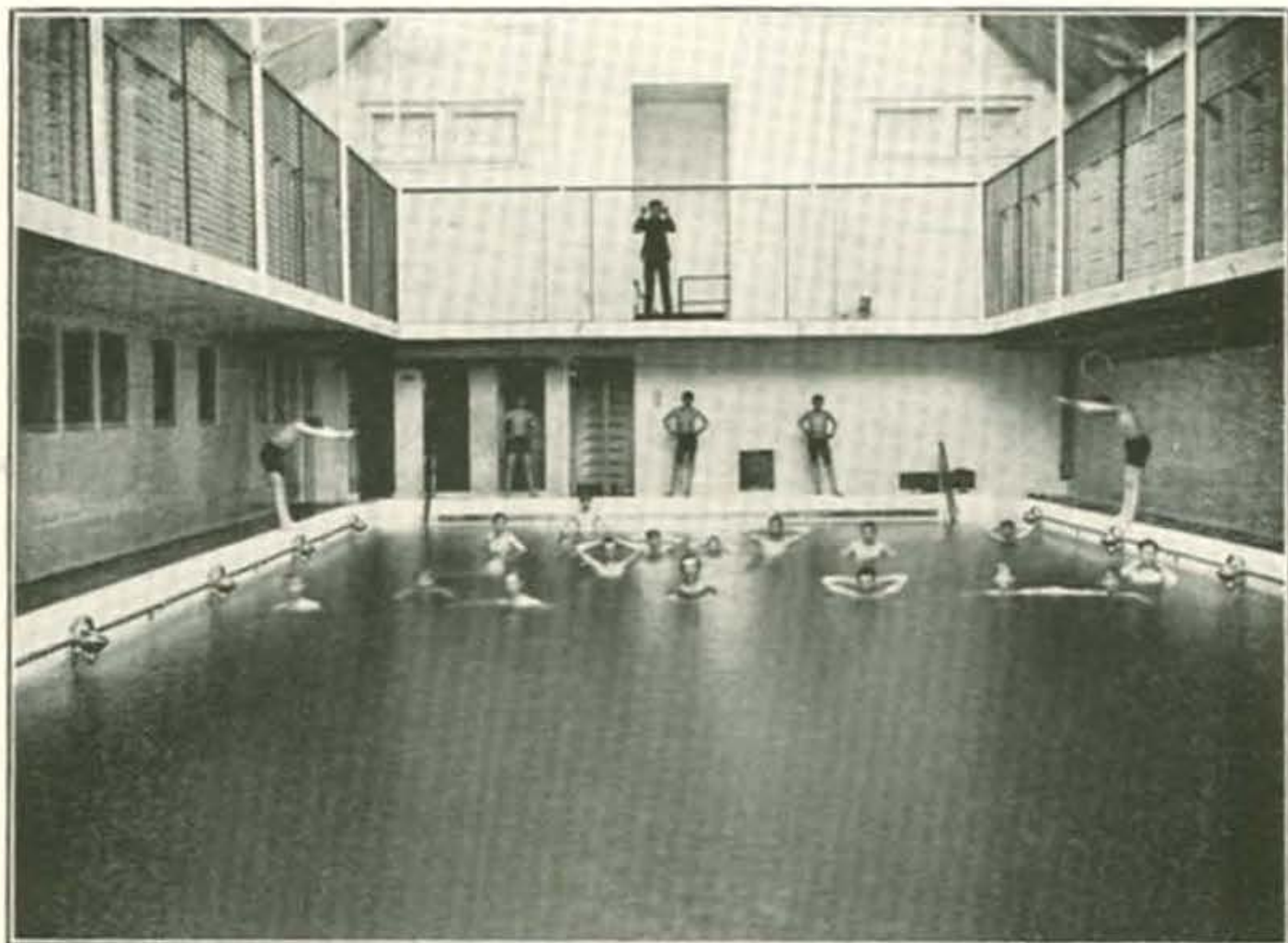
Menomonie Kindergarten Training School, 1900; director North Menomonie Kindergarten, 1903—

Miss Margaret Ashmun, English Composition.

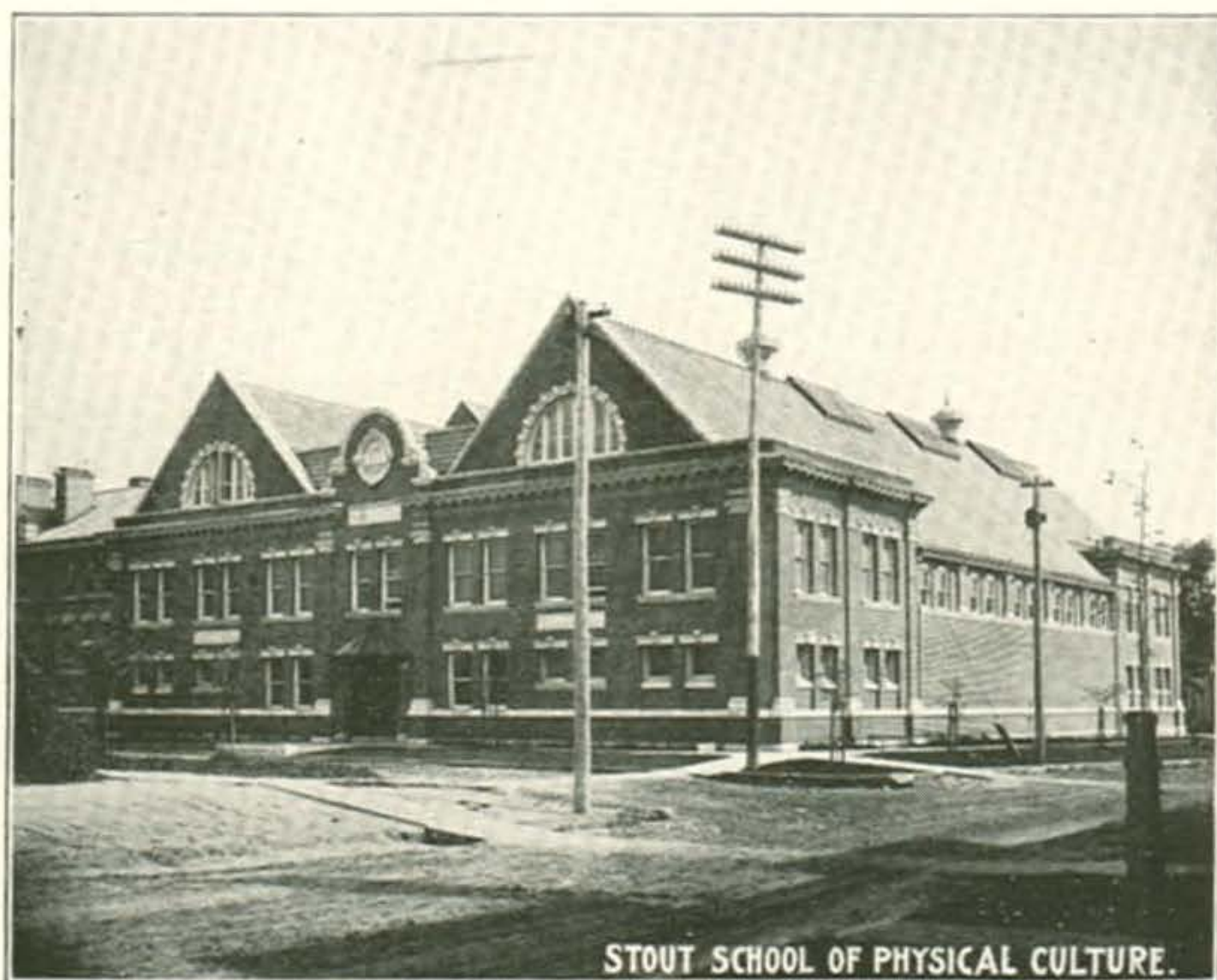
Stevens Point Normal, 1897; assistant Marshfield High School, 1898-1903; University of Chicago, summer sessions, 1901-1902; University of Wisconsin, 1904; Stout Training Schools, 1904—

A. H. Christman, Chemistry, Bacteriology, and Physiology.

Northern Indiana Normal School and Business College, 1893-95; teacher in District and Graded Schools, 1895-1900; University of Wisconsin, 1903; assistant instructor in biology, University of Wisconsin, 1903-04; Stout Training Schools, 1904—



CLASS OF BOYS IN SWIMMING POOL.



STOUT SCHOOL OF PHYSICAL CULTURE.

THE EDUCATIONAL IDEA UNDERLYING THE MENOMONIE PUBLIC SCHOOL SYSTEM.

The question is often asked, "In what way, if any, does the work in the Menomonie public schools differ from that in the public school systems of other cities of similar size?"

In order to understand the distinguishing characteristics of the Menomonie School System, it is necessary at the outset to understand the conception of education which has formed the basis for its development. That conception makes education for the individual mean: The acquisition of knowledge coupled with the development of power and tendency to acquire further knowledge; a training in doing because of that knowledge, resulting in a clarifying and enlarging of the present knowledge with growth of power to acquire and apply knowledge in fruitful activities later on; further, a training in **being** as a result of **knowing** and **doing**, to the end that the product of the public schools shall be good citizenship. Such an education is the result of special training actively directed toward given ends, supplemented by the influence of environment.

For the results from special training and for the influence of environment we must look to the home, to the school, to society, and to the church. No one of these factors is entirely responsible for the final outcome. Each furnishes a part of the environment of the individual child. The home and the school are perhaps the factors most in evidence and most active in special training.

If the home fails as a factor concerned in the special training of the child or in furnishing its share of what is desirable in environment, then a larger responsibility devolves upon the school and upon the other factors named, or the individual and the community suffer.

It is the belief of those most directly concerned in the organization and development of the Menomonie schools that there is a lack of special training in the home, under existing social conditions, which is needed for the kind of education above indicated, and that no factor concerned in the education of the child, unless it be the school, can provide this training. And since such training is regarded as necessary, the school therefore must undertake the work.

In the public school systems everywhere prominence is given to that factor of educational work summed up in *knowing*; and in the ordinary practice, the field of knowing is bounded by the curriculum of the common schools, requiring a knowledge of the ordinary academic subjects which have been the standard elements of the course of study for generations.

In some schools in recent years, this field of knowledge has been broadened to embrace something in the domain of things as well as in the domain of books. Formerly the *doing* was that which de-

manded mental activity with the least possible physical activity. Today in many schools, that conception is being enlarged so as to demand physical doing, requiring mental direction and stimulus, and resulting in a training of the hand and of the mind and in a development of the body.

It is in this particular field that the Menomonie public school system has perhaps its distinguishing characteristic. In the organization of this system of schools the following things are recognized:

First, that impression to be effective must be followed by expression; that impression may come from other sources than from books; that expression may take other forms than that of words or figures, and that these added types both of impression and expression have a value in training, if not superior at least unexcelled by the older types of training.

Second, that in the life of the child after its school days are over, he will be concerned with those activities which deal with things rather than with books, with what men do and with what he is to do, rather than with what men say; and very much more with what men do today and what is to be done today, than with what men said and did a thousand years ago. And therefore that the training in the school which will early put the child in touch with things, and demands the activities essential in dealing with those things is a kind of training which directly fits him for his later work in life.

Third, that much of that which the child ordinarily acquires in school as a matter of knowledge has little value as knowledge; that whatever of gain there has been in its acquirement was in the effort put forth for such acquirement and in the resulting effect upon the individual in increased capacity for similar effort. It is believed that many of the facts which make up the body of knowledge ordinarily required may be safely omitted from the work of the school, and in place of the work necessary for their acquisition there may be substituted a training, which is essentially doing, and which will play a larger part in the efficient activities of the child in later life than would a knowledge of the omitted facts.

Fourth, that mental training results not solely from a study of what others have done and said, but that in the determination of what is to be done today, of how it shall be done, and in the control and direction of physical activities employed in the doing, there is a kind of mental training unsurpassed in value by any other as a preparation for professional life or for work with one's hands.

Fifth, that as statistics show that ninety-two out of a hundred young people who complete the work in the grades below the high school in our public school system, subsequently earn their living and support those dependent upon them by the work of their hands, therefore the public school system which plays its proper part in the training of citizens and in the development of the highest type of manhood and womanhood must offer some training of hand, some training of mind through the training of the hand, some training to-

ward the recognition of the nobility of manual labor controlled and directed by mental activity to useful ends, if it is to do the best that can be done to fit these ninety-two people out of a hundred during the time they are in school, for their future position in life. To put it in other phrase, the training of mind through the training of the hand is unsurpassed by any other kind of mental training for the individual who is fitting himself for those professions demanding mental work chiefly, and it has a practical utility superior to any other kind of mental training for the individual who finds his after school activities in life in the field of manual labor.

Sixth, that a practical development of the physical organism is essential to the highest well being of the individual and that intelligent, systematic, and persistent physical training in the schools will do much toward the development of such an organism and for the training of the child in the care of that organism.

Seventh, that in addition to mental, manual, and physical training it is desirable that there shall be a development and training of the aesthetic sense for practical uses and for the largest enjoyment of the individual. An appreciation of beauty in form and color, of harmony and fitness in dress and in the decorations and furnishings of the home, an appreciation of music coupled with practice in the art of singing, are acquisitions which will add to the comfort, usefulness, and happiness of the individual.

Eighth, that through reading, the mind may be broadened and stimulated and informed, provided the reading be of the right sort and done under proper direction and stimulus; that the school should not only train individuals to read, but that it should add to this power, such opportunity and training as shall develop the habit of reading, and a taste for reading that which is good in literature, so that whatever may be their position in life, they may find it possible, through the world of books, to bring their minds in touch with the minds of the great thinkers of all times.

Ninth, that the creation of right ideals and the development of good habits are an essential part in the education of any individual, and therefore the public school should intelligently, actively, and persistently work for the creation of these ideals and the development of these habits.

FEATURES OF THE MENOMONIE SCHOOL SYSTEM.

In any attempt to incorporate the ideas above set forth in a working scheme in any public school system designed to reach the entire school population of the community, it is evident that facilities in the way of equipment and teaching force must be provided somewhat in excess of those usually found in cities, small or large.

Through the munificence and public spirit of Hon. J. H. Stout and through his insight into the needs of the elementary and secondary schools, these facilities have been provided in Menomonie, not solely

for the benefit of the children and future citizens of Menomonie, but for the purpose of determining by actual experiment what can be done in the way of realizing the ideas above set forth, and whether the results of work in a system thus organized are such as to warrant whatever increase of expenditure is necessarily involved.

A building with equipment costing over \$100,000 has been provided for classes in manual training, domestic science, and advanced work in art.

All pupils in the first three grades do the elementary construction work required by the course of study in the grade rooms. Wood-working is begun by the boys in the fourth grade and is carried on in the manual training building. From that grade on through the high school, work is given the boys in Sloyd, mechanical drawing, carpentry, wood turning, pattern making, forging, foundry and machine shop practice.

The work in domestic art, economy, and science is begun with sewing in the fourth grade, and is conducted by the regular grade teachers in the grade rooms, under the supervision of the head of the department of domestic art. From the fifth grade on through the high school this work is carried on in the manual training building, and comprises work in sewing, cutting and fitting and making of garments, millinery, cooking, study of foods and dietetics, sanitation in the home, heating and ventilation of the house, house decorations and furnishings, household management, and the elements of nursing.

A building containing a thoroughly equipped gymnasium and natatorium has been provided at an expense of \$75,000. In this building classes from the fifth grade through the high school are given systematic instruction by two thoroughly competent teachers.

Two buildings devoted exclusively to kindergarten work have been erected, with outdoor gardens which are utilized in the kindergarten work during the Spring and Fall terms.

Art instruction is begun in the first grade and progressively developed until the end of the second year in the high school. A thoroughly competent supervisor has charge of this work. All material needed is furnished without cost to pupils.

Music is taught throughout the entire course by the regular teachers under the direction of a competent supervisor.

Organized work in the reading of library books is carried on throughout the course to extend knowledge, develop new interests, establish habits of reading, and to cultivate a love for good literature.

The creation of right ideals and the development of good habits is regarded as a most important part of the school work. These subjects are carefully studied by the teaching force for the purpose of determining the body of ideals and habits which should be acquired during the school life of the child, and for determining the character and scope of the individual and co-operative work of teachers for the development of these ideals and habits. This study is accompanied

and followed by definite and continued effort for the development of character through the establishment of correct ideals and habits.

The importance and place of work in the various common and high school branches generally regarded as essential in elementary and secondary schools is fully recognized. In teaching these branches an effort is made to eliminate the non-essentials and to secure a reasonable correlation of work in them and with the work in the special branches, not for the sake of correlation or for the doing of some new thing, but for the better organization of knowledge in the minds of pupils and economy of time and effort in training.

THE TRAINING SCHOOLS.

The development of the kindergarten work, begun in 1894, led to the establishment of a training school in 1899, for the preparation of kindergartners. The success of this school, the demand for its graduates, coupled with the desire of Mr. Stout to make a larger use of the equipment of the Manual Training School than was demanded by the needs of the pupils in the public schools, and the demand for properly trained teachers of Manual Training and Domestic Science, led to the establishment in 1903 of two additional Training Schools for the preparation of these classes of teachers. In order that there might be no clashing of interests between the public schools and the training schools, the latter were placed under the general control of the Board of Education.

Well Known Educational Man Selected to Organize the Training Schools.

It was recognized at the outset that in order to place these training schools in the first rank as professional schools, their organization and development must be entrusted to a man interested in industrial education, and with a wide experience in the professional training of teachers.

The position of superintendent of the city school system and of the training schools for manual training, domestic science, and kindergarten teachers was offered to L. D. Harvey and accepted by him.

Mr. Harvey's wide experience in educational work and his well-known interest in industrial education fit him admirably for the position. He has had experience in all grades of public school teaching, and in the supervision of city schools. He was for seven years Institute conductor in the Oshkosh State Normal School, and for six years president of the Milwaukee State Normal School, where he organized the first state training school in Wisconsin for kindergarten teachers. In 1898 he was elected State Superintendent, which office he held for four years. In 1899 he was appointed a commissioner by the State Legislature to investigate and make a report on industrial

education as carried on in this and other countries, and in 1901 was re-appointed to continue this investigation and report on courses of study in manual training, domestic science, and the elements of agriculture for public schools. In the investigation preparatory to making these reports, he made a broad study of the various subjects, which gave him a large acquaintance with what has been accomplished in these fields, and definite views as to necessary steps for a more complete development of this system of instruction.

In 1903 he was made chairman of a committee of five appointed by the National Council of Education to investigate and report to that body on the subject of "Industrial Education in Schools for Rural Communities."

ORGANIZATION OF THE TRAINING SCHOOLS.

The Training Schools for Manual Training and Domestic Science teachers were organized and work begun in September, 1903. The Kindergarten Training School, organized in 1899, was continued and its work strengthened.

A two years' course was planned for each school and the work in each department placed in the hands of experienced and competent instructors.

Enrollment.

	1903-4	1904-5
Training School for Kindergartners.....	35	31
Training School for Manual Training Teachers.....	3	15
Training School for Domestic Science Teachers....	21	36
Total for the year.....	59	82



TRAINING SCHOOL COURSES.

The following is a general outline of the training courses offered for the preparation of Manual Training, Domestic Science, and Kindergarten teachers.

Modification of Courses.

The outlines of the courses here given are subject to such modification as experience may show to be desirable, without reducing the total time required.

MANUAL TRAINING COURSES.

Elementary School Course.

I.

Hand Work for Primary Grades.—This work includes Basketry, Clay-modeling, Drawing, and Construction in Paper, Cardboard, Wood and Bent-iron.

Practical work by pupils and discussion of processes and methods of teaching.

II.

Wood-Working for Intermediate and Grammar Grades.—Knife work. Use of bench tools.

The Sloyd system of wood-working will be the basis of this work. Such work in joinery will be given as time will permit.

III.

Drawing.—Free-hand Drawing, Mechanical Drawing, Elements of projection as applied to working drawings.

IV.

Professional Work.—(a) Psychological and Pedagogical principles in their application to the teaching of Manual Training; (b) Organization and Management of Manual Training classes in public schools; (c) History and Literature of Manual Training; (d) Observation of Teaching and Practice Teaching throughout the Senior Year.

See "Illustrative Outlines," pp 22-25.

Electives.

Electives in science, mathematics, English, and professional reviews of common school branches, or in work selected in the secondary school course, will be taken, the equivalent of one hour daily throughout the course. In the selection of electives, students will be expected to advise with and secure the approval of the director of the training school. Students who desire to do so may substitute Group II. of the Domestic Science Course for an equivalent number of hours' work, to be selected from the above group of electives with the advice and consent of the director of the school. Physical Training.

Secondary School Course.

I.

Wood-Working for Secondary Schools.—Joinery; Pattern-making; Wood Turning.

Shop work by students and discussion of processes and methods of teaching in individual and class work.

II.

Molding and Foundry Practice.—Shop work.

III.

Forging.—Shop work.

IV.

Machine Shop Practice.

Chipping, filing, and fitting, with practice in using various machine tools in typical processes in a well equipped shop.

V.

Free-hand and Mechanical Drawing.

VI.

Professional Work.—(a) Psychological and Pedagogical principles in their application to the teaching of Manual Training in High Schools; (b) History and Literature of Manual Training; (c) Courses, Equipment, and Plans of Organization for Manual Training in High Schools and in Elementary Schools; (d) Observation of Teaching and Practice Teaching throughout the Senior Year.

See "Illustrative Outlines," pp 22-25.

Elective.

Physical Training.

Time Limits.

The Manual Training courses are planned with the idea that 1,440 hours' work in shop, class-room, and laboratory are necessary for the proper completion of the work in each course.

The number of hours to be given to each class of work, and the order of progression in the courses, will be determined by the attainments of students entering the school.

Tuition.

The tuition fee is one hundred dollars per year, one-half payable at the beginning of each semester. A small fee will be charged to cover the cost of material used in the laboratories and shops, and in drawing.

DOMESTIC SCIENCE COURSES.

Secondary School Course.

I.

Food Materials and Foods.—(a) Selection and care of materials; (b) Preparation of foods—plain, invalid, and fancy cooking; (c) Food values; (d) Serving of foods, and care of dining-room and kitchen utensils.

Practical work in laboratory, kitchen, and dining room, accompanied by discussion to develop reasons for processes employed.

II.

Textile Fabrics for Wearing Apparel and Decorative Purposes.—(a) Selection of materials with reference to cost, utility, and effectiveness for purpose designed; (b) Preparation and assembling of materials in the completed article.

This work involves instruction and practice in (1) Sewing, (2) Dressmaking, (3) Millinery, (4) Household Art, (5) A study of the quality of textile fabrics, harmony of design, color, and material in costumes and for decorative house furnishings.

III.

Household Economy and Management.—(a) Furnishing and care of house; (b) House sanitation; (c) Emergencies and home nursing; (d) Laundry work; (e) Economy in marketing and in household management; (f) Household accounts.

Practical work by students, lectures and demonstrations by teachers. Selected readings.

IV.

Science.—(a) Chemistry; (b) Biology; (c) Physics; (d) Physiology and Hygiene.

The work in science will be carried on with a view to its value to the student in the study of food materials and foods. For the student who has had no work in chemistry, such a course will be necessary as is required in order that he may do work in qualitative chemistry and may be able to understand the chemistry of foods. In biology the work will be devoted largely to a consideration of food plants and bacteria. In physics, energy and heat will be considered. In physiology and hygiene, such portions will be emphasized as correlate with the work on foods, dress, and household economy and management.

V.

Professional Work.—(a) Psychological and Pedagogical principles in and their application to the teaching of Domestic Science; (b) History and Literature of Domestic Science in its development as a part of the common school course; (c) Organization and Management of Domestic Science work in the public schools; (d) Observation of Teaching and Practice Teaching throughout the Senior year.

See "Illustrative Outlines," pp 22-25.

VI.

Free-Hand and Mechanical Drawing.

English.—Composition and Literary Readings.

Electives.—(a) Physical Training; (b) Drawing (Color and Design); (c) Hand work for Primary Grades; Manual Training Course for Elementary Schools.

Elementary School Course.

Students wishing to prepare themselves to teach in elementary schools only, may take the preceding course, except that they will substitute **Hand Work for Primary Grades**, of the Manual Training Course for Elementary Schools, for such work in Groups II, III, and IV, as may be determined by the Director of the school.

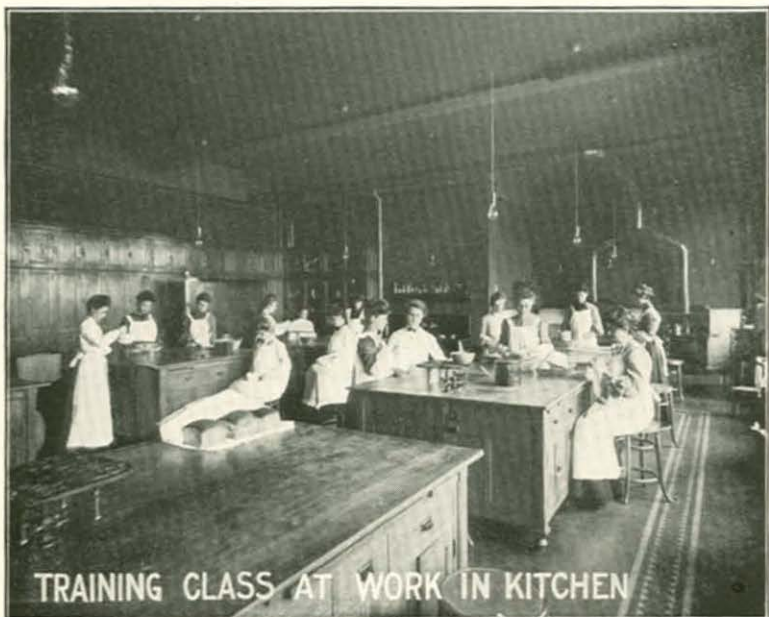
Time Limits.

The Courses in Domestic Science are planned with the idea that 1,440 hours' work in class-room and laboratory are necessary for the proper completion of the work in each course.

Tuition.

The tuition fee is one hundred dollars per year, one-half payable at the beginning of each semester. A small fee will be charged to cover the cost of material used in laboratories and kitchen, and in drawing.





Outline, Kindergarten Training Course.

JUNIOR YEAR.

First Semester.

Psychology	14 weeks
Kindergarten Theory	18 weeks
Kindergarten Technics	18 weeks
Freehand Drawing	18 weeks
Music	10 weeks
Expression	8 weeks
Physical Culture	18 weeks
Chorus Practice	18 weeks

Second Semester.

Kindergarten Theory	18 weeks
Kindergarten Technics	18 weeks
Freehand Drawing	6 weeks
Mechanical Drawing	12 weeks
Nature Study	12 weeks
Composition	10 weeks
Physical Culture	18 weeks
Chorus Practice	18 weeks
Elementary Sewing (optional).....	12 weeks
Observation of Kindergarten Work.....	18 weeks

SENIOR YEAR.

First Semester.

Kindergarten Principles	18 weeks
Pedagogics of Kindergarten and Primary Work.....	18 weeks
Child Study	18 weeks
Physical Culture	18 weeks
Chorus Practice	18 weeks
Teaching	18 weeks
Elementary Woodwork or Cooking (optional).....	12 weeks

Second Semester.

Kindergarten Principles	18 weeks
Pedagogics of Kindergarten and Primary Work.....	18 weeks
History of Education.....	10 weeks
Literature	18 weeks
Physical Culture	18 weeks
Chorus Practice	18 weeks
Teaching	18 weeks

Tuition.

The tuition fee is fifty dollars per year, one-half payable at the beginning of each semester.

The courses in cooking, sewing, and wood-working are optional; a tuition fee of ten dollars is charged for each of the optional courses.

Materials used in drawing and for occupation work are bought by students. The cost need not exceed ten dollars per year.

QUALIFICATIONS FOR ADMISSION TO THE TRAINING SCHOOLS.

Graduation from a four years' high school course, or equivalent preparation, will be required for admission to each of the Training Courses. The candidate must be at least seventeen years of age, and must be possessed of good health and physical energy, of natural fitness for the work, of refinement and good character. For admission to the Kindergarten Training Course some proficiency in music is desired, although students are not denied admission because of lack of such knowledge. Testimonials of good character are required.

Credits.

Students who have had Normal School or Collegiate training will be given credit for such work in the courses they pursue as they have satisfactorily mastered.

Students who have had successful experience in teaching may be relieved of a portion of the practice teaching required of those who have not taught.

Time of Entrance.

Students should arrange to enter at the beginning of the school year if possible. When this is not feasible students may enter at the beginning of the second semester.

Cost of Living.

Board and room can be obtained at prices ranging from four to five dollars per week.

Inducements for Teachers to Prepare Themselves for Work in Manual Training and Domestic Science.

The present demand for competent teachers of these subjects in the elementary schools, is larger than the supply. In almost every other department of teaching, the supply exceeds the demand.

In many localities, teachers are sought who can teach some of the common branches during a portion of the day and carry on work either in manual training or in domestic science for the remaining part of the day. Better salaries are paid this class of teachers than

are paid those who can do work in the common branches only. Manual training or domestic science once introduced in a system of schools, even in a small way, expands until the full time of a teacher or of several teachers is demanded for its successful administration.

In other localities, manual training and domestic science are being introduced in connection with the high school work. Great difficulty is experienced in securing competent teachers. Good salaries are paid teachers who are properly prepared for carrying on the work in the high schools.

For the manual training work in the grades below the high school, and especially in the lower grades, women are as successful as men when they have received the proper training. The fact that the two training schools are carried on in the same building, and under the same management, makes it possible for teachers to prepare themselves both for teaching domestic science and for the elementary work in manual training.

Demand for Trained Kindergartners.

Since the organization of the Kindergarten Training School in 1899, its graduates have been in demand. In nearly every case positions have been secured for the next year, before graduation.

Aid in Securing Positions.

Every aid which can properly be given by the officers of the school will be extended to graduates in securing positions.

Aims of the Schools.

In the administration of these courses it will be the aim to prepare teachers who will be competent to organize work, in the different fields for which they have been prepared, in connection with existing public school systems. While the students taking these courses will have the benefit of a far better equipment than can be provided in most systems of schools, they will be trained with reference to the development of power and skill in organizing and carrying on work under such conditions as to equipment, as can be supplied easily in any village or city school system. The professional side of the work, that of training to teach others, will be made a prominent feature throughout the courses.

The idea that because a person knows a subject, he can therefore teach it, is no more true in dealing with these subjects than with any other.

In the early experiments in manual training, it was thought that artisans who were skilled in the handling of tools were proper persons for teachers. Experience wherever this experiment has been tried has shown the fallacy of the idea and has led to its abandonment. Among those competent to judge, it is now recognized that

proper instruction in manual training and domestic science demands the application of the same pedagogical principles, as does good teaching in any subject, and the teachers must be trained not only to do the things which their pupils are to do, but they must also be trained to teach pupils how to do these things, and must train them in doing them. Throughout the courses students are constantly impressed with the idea that they are fitting themselves to teach as well as to know the subjects upon which they are working.

State Recognition of Diplomas Issued to Graduates of the Training Schools.

The laws of the State authorize the State Board of Examiners to recognize the diploma issued from these training schools, as the basis for the issuance of a life certificate, entitling the holder to teach subjects in the respective courses in the public schools of Wisconsin. State certificates issued in Wisconsin are recognized in most of the other states in the Union.

Illustrative Outlines.

Psychology and Pedagogy.

The work in psychology and pedagogy is taken at the beginning of the Junior year and is limited to a consideration of principles, fundamental in character, and to the application of these principles in the actual work of teaching. Time will not permit the study of psychology as a culture subject. The students who have so studied it but have not given consideration to the application of its fundamental principles in teaching, will need to take the prescribed course.

Those principles of pedagogy are considered which may be shown to have a practical application in the teacher's work. In the academic, shop, and laboratory work, it is the aim of the teacher not only to have students master the special work under consideration, both from the academic and the technical standpoints, but at the same time to consider the work from the standpoint of the teacher. The following are some of the questions which are considered:

What is the relative value of training, limited in range of tools and material employed and in variety of exercises and products, as compared with the training resulting from the use of tools and material covering a wide range, and demanding exercises and products of great variety?

What is the educational value of a given exercise measured in terms of mental activity and manual skill?

At what stage in the pupil's development is a given exercise demanding definite forms and amount of mental and manual activity best adapted to his needs?

At what stage in the work toward the development of skill in the

use of a given tool does the educational value of the exercise cease to warrant its further continuance?

To what extent may interest in a given piece of construction work take the place of preliminary training in the proper use of tools employed in the different stages of the work and necessary for the proper construction of the product?

To what extent may pupils' interests, developed through stimuli furnished by the teacher and directed toward a systematic course of training, properly take the place of their native interests?

What are the steps in order in the working out of any given exercise?

What work in the line of the pupil's present interest is he prepared for and what is best adapted to his needs for training purposes?

How may pupils' interests be developed in profitable lines of constructive work, collateral to the required work of the course?

These and other professional questions are kept before the students in all their class work. In this way they are prepared, in the latter part of the Junior year, to do intelligent work in the observation of teachers in the different grades of the public schools, as they have some basis of principle to guide them in their observation. They have learned to recognize the necessity on the teacher's part of establishing right relations in the pupil's mind and they are alert to determine whether such relations are being established, and if not, why not, and if they are, in what manner.

Organization and Management of Manual Training and Domestic Science Classes in the Public Schools.

The following are some of the topics discussed under this head:
Importance of present environment, activities, and social and industrial needs as compared with the environment, activities, and conditions of primitive peoples as determining the part each should play in shaping the course in manual training.

Scope of work to be undertaken under given conditions.

Work which should be undertaken when a gradual introduction of manual training or domestic science into the school system is contemplated.

Proper amount of time to be given to manual work in different grades.

The relation of manual work to other work in the course of study.

How to find a place for manual work without overcrowding the course.

Character and cost of equipment for Wood-Working, Cooking, Mechanical Drawing, Wood Turning, Pattern Making, Molding, Forging and Machine Shop practice, Installation of Equipment.

Work of Manual Training or Domestic Science instructor as a

class teacher, as a supervisor, and as an instructor of lower grade teachers in construction work.

Educational values of different classes of work as determining their place in the course of study.

Individual and class instruction,—possibilities and advantages of each.

Proper control of classes in manual work.

Modes of interesting the public in the manual work of the schools.

Economy in selection and use of material for the purpose of keeping down expenses.

Opportunities afforded in manual work for training in oral expression.

General correlation of manual work with the other work of the school.

Work Preparatory to Practice Teaching.

The following fundamental propositions are applied by teachers and students in the determination of what is to be done in the preparation for and in the progress of any given recitation:

I. The teacher must have in mind a definite purpose or purposes to be realized in the next recitation.

II. The teacher must have in mind the things which must be known or done in order that the purposes may be realized.

III. The teacher must determine what of the things falling under proposition II., the pupil now knows or can do.

IV. The teacher must determine what of the things enumerated under proposition II., the pupil still has to learn or to do, and the order in which they should be known or done.

The first and second propositions are applied in dealing with a given amount of work requiring one recitation or a number of recitations for its completion.

The first and second propositions are applied by the teacher as a preparation for the proper testing of the pupil in the recitation. Such testing is the application of the third proposition.

The first, second, and third propositions are applied in determining the necessity for any given drill exercises at any given time and also for the determination of what is to be learned in preparation for the recitation or what is to be taught by the teacher during the recitation period. The teaching is an application of the fourth proposition.

Lesson and unit plans applying the foregoing propositions are submitted to the teachers by students for criticism and are corrected by the students under the guidance of the teacher.

This work is given for the purpose of developing a habit of thought in the treatment of the lesson, resulting in individual freedom, but freedom under the control of pedagogic law. Any other sort of freedom degenerates into license.

Observation of Teaching and Practice Teaching.

In the Senior year the students are required to systematically observe the work of experienced teachers in conducting classes in their respective lines of work in the public schools. The observation work is under the direction of members of the training school faculty. The observation required is not simply a "looking on"; the teachers in charge direct the attention of the observers to definite aims, methods, and results. Methods of different teachers in the instruction and control of classes are studied, not to be copied, but to determine how far they are based on sound pedagogic principles. The work under observation is discussed by those observing and the teachers in charge of the observation classes. Weaknesses are pointed out and the reasons for the weakness shown from a pedagogic standpoint. The strong work is noted and the reasons for its strength discussed. The aim is to make students familiar with the application of psychological and pedagogical principles through a careful observation of the various ways in which these principles are applied by different teachers in different phases of the work. After the observation work has been continued for a reasonable time, students are put in charge of classes and are given practice in teaching in different grades. Before beginning practice teaching in any grade, students are required to thoroughly familiarize themselves with the work outlined in the course of study for that and lower grades and by observation of the class, to determine what progress has been made in the course and what are the next steps in order. Before taking charge of the classes, they are required to prepare definite plans indicating the proper order of procedure. The practice teaching is done under the supervision of the special teacher of the particular line of work in which the instruction is given. In the class work of the regular teachers in the training schools, an effort is made to bring into the consciousness of the students the pedagogical principles upon which the work there is based.

History and Literature of Manual Training.

This work is carried on by means of lectures by teachers and assigned readings. Following are some of the topics considered:

Historical development of manual work as a part of the public school course of instruction.

Its right to a place in the course of study.

Its present status in the public schools.

Its probable future development.

INORGANIC CHEMISTRY.

Domestic Science. Junior Year. First Semester.

General Chemistry. This work includes many of the practical applications of inorganic chemistry in domestic science, and also serves

as a preparation for the work taken during the second semester. Remsen's "Introduction to the Study of Chemistry" is used as a text and the following subjects are given special attention: Chemical action—elements—compounds, laws of chemical combination, affinities—valence—chemical equation, classification of elements—periodic law, acids—bases—neutralization—salts, and also the chemistry of about twenty-five of the commoner elements.

In the laboratory it is aimed to secure readiness in manipulation of apparatus as well as to supplement the work done in the classroom. During the latter part of the semester, enough work is given in testing to enable the student to recognize the commoner substances used in adulteration and preservation of foods.

The work is given in the classroom, forty-minute periods on Tuesday and Thursday, and in the laboratory eighty-minute periods falling on Monday, Wednesday, and Friday of each week.

FOOD CHEMISTRY.

Domestic Science. Junior Year. Second Semester.

This course is designed to meet the needs of students working with foods. The work includes (a) chemistry of carbohydrates, (b) the chemistry of hydrocarbons, (c) the chemistry of nitrogenous food products, (d) the analysis of a complete food.

Under "a," the different carbohydrates are studied, special attention being paid to their chemical structure and to the conditions under which changes from the one form to the other take place.

Among the hydrocarbons "b," the principal compounds studied are alcohols, acetic acid, and the fats. Besides making a study of their chemical composition, their physical properties are discussed and attention is paid to their uses in commerce. The chemistry involved in the manufacture of spirituous liquors, vinegar, and soap is studied at this point.

Under "c," "Cohnheim's Classification of Protein" is followed in the study of nitrogenous compounds. More attention is paid to their physical than to their chemical properties here. Their food value is dealt with in great detail in the course in Physiology taken in the Senior year.

The analysis of a complete food follows closely the plan given in Bulletin No. 46 Revised Edition, of U. S. Department of Agriculture. It involves the determination of the percentage of moisture, carbohydrate, fat, proteid, fiber, and ash present in a typical food.

The second semester's work includes eighteen lectures along the lines indicated above, twice a week, Tuesday and Thursday. Eighty minutes per day of laboratory work are given on Monday, Wednesday, and Friday. During the latter part of the semester, the lectures are omitted and the whole time is devoted to laboratory work.

HOUSE FURNISHING.

Domestic Science. Senior Year.

The purpose in view in teaching this subject demands a treatment of the following topics:

1. Principles of good furnishing, the selection and assembling of articles of furnishing, including floorings, floor coverings, window shades and curtains, walls, wall finishes, draperies, rugs, and furniture proper.
2. The relative durability and economic value of various furnishing materials.
3. Beauty of form and color scheme.
4. The effect of furnishing upon the physical, mental, and moral development of the family.
5. Effect of a study of House Furnishing upon the development of the individual making the study.
6. Application of the subject matter of House Furnishing to the work of the public schools.

Proper treatment of the foregoing topics requires a discussion, and so far as possible, an illustration of the following statements:

1. The object of a house is to provide shelter and to contribute to the health, comfort, and convenience of the family using it.
2. Furnishings may affect the health of the family by shutting out light, air, and sunshine; by collecting dust and moisture; and by overworking the housekeeper.
3. Furnishings may affect the comfort of the family by crowding the rooms, and using superfluous materials, by failure to conform to the needs of the individuals of the family, and by offending the aesthetic taste.
4. Furnishings may affect the convenience of the family by being of poor or cheap quality and faulty construction, and by being unsuited to needs and uses.
5. Furnishings may affect the mental development: first, by unconsciously stimulating mental processes involved in attention to details in furnishing, comparison, judgment, and general interest in the subject; second, by leading to some study of furnishing materials.
6. Furnishings may affect the moral development by providing a suitable environment for the cultivation of correct ideals of the beauty of simplicity, and by providing an atmosphere in which to develop well rounded characters.
7. The study of House Furnishing may have the following effects upon the individual: produces mental growth, through the development of proper concepts, through comparison, judgment, and the formation of ideals; elevates the home ideal; develops business ability and judgment in the comparison of economic values and in the selection of suitable materials; develops the aesthetic nature.
8. The fundamental principles of good furnishing are simplicity

and durability in design, color, and ornament; adaptability to the uses and income of the family and to the location, surroundings, and kind of house to be furnished; beauty of form, involving consideration of use, ease in use, and economy of time and energy in care; harmony of color, including choice of prevailing colors, tones, and contrasts.

9. There are certain things that govern the choice of materials in furnishing. These are: the relative value of animal, vegetable, and mineral materials; the effects of climate and different kinds of heat upon the durability and appearance of materials; the cost of materials; the assembling of materials with regard to quality and use, and with regard to relation and association.

10. Special rooms and parts of a house, their fitting and care.

(See separate headings below.)

11. Plan for introducing the subject of House Furnishing into the public school work.

The arguments in its favor are mental discipline, development of home ideals; development of aesthetic taste, business ability and judgment.

The methods of introducing the subject are by making the school room the exponent of the principles of furnishing, by the construction of an imaginary house, by lectures and discussions, and by comparison of various materials that may be used to illustrate the discussion.

The time of introduction must vary with the development of the pupils. The best results come from the introduction of the work in the Junior and Senior years of the High School.

OUTLINE ON SPECIAL TOPIC.

The outlines given below illustrate the method of treating the special parts and rooms of the house. These plans are not intended to show the complete course of study, but are used merely to illustrate the tenth heading above.

I. Floors—

1. Finish—wood, matting, carpets, linoleum, rugs, denim.
2. Ideal finish.
3. Choice of colors and designs in carpets and rugs.
4. Woods used.
5. Mattings.

II. Walls—

1. Finish—paper, rough tints, paint, etc.
2. Choice of colors.
 - Warm colors.
 - Cold colors,
 - Restful colors.
3. Relation of walls and ceilings.

4. Choice of designs in paper according to:
Size of room.
Light of room.
Use of room.

III. Windows—

1. Purpose of window.
2. Object of curtain.
3. Choice of color in shades—
Harmony of color.
Restfulness to eye.
4. Choice of draperies—
Simplicity.
Cleanliness.
Adaptation to use of room.

IV. Kitchen—

1. Floor—oiled, painted, tiled, oil cloth, linoleum.
2. Walls—painted, varnished, tiled.
3. Windows—
Light shades.
Washable curtains.
4. Sink—porcelain, soapstone, iron, enameled iron.
Well drained—no closet.
Shelves for draining, etc.
5. Cabinet—wood, zinc.
Oil cloth top.
Raised from floor.
Closed to dust.
6. Cupboards—shallow, rather than deep.
Plenty of room for hanging things.
7. Lights—bracket lamps, good reflectors.
8. Pantry—large, airy, well lighted, well ventilated.
Shelves covered with oil cloth.
9. General hints—
High stool for table use.
Rocking chair.
Rugs to stand on.
A place for everything.
Jars, boxes, etc. for groceries, labeled.
10. Care of kitchen—
Care of range—
Daily removal of ashes.
Washing or blacking of range.
Care of pantry and cupboards—
Weekly cleaning.
Keeping in order at all times.

Care of refrigerator—
Daily and weekly cleaning.
Use of charcoal.
Caution as to drains.
Care of sink.
Wiping off walls.
Oiling of floor.

ENGLISH.

Each member of the Kindergarten Training School and of the schools of Domestic Science and Manual Training is required to complete a course in English Composition, covering not less than ten weeks. The aim of this course is to present such phases of composition work as will give the student a command, both in speaking and writing, of simple, correct and clean-cut English. The special topics considered vary with the needs of particular classes, but in general they may be designated as: grammatical forms; sentence structure; choice of words; social and business correspondence; the preparation and organization of literary material.

The work is closely correlated with that in other departments and is based on long and short themes, talks, discussions, and papers presented by members of the classes.

A special feature of the work in English is the training in oral exposition and description. The tools and materials used, processes employed, and products completed in the construction work furnish many of the topics for these exercises. This work is continued throughout the course for the purpose of developing ease, facility, and accuracy in the students' subsequent use of English as a teacher in the class-room.

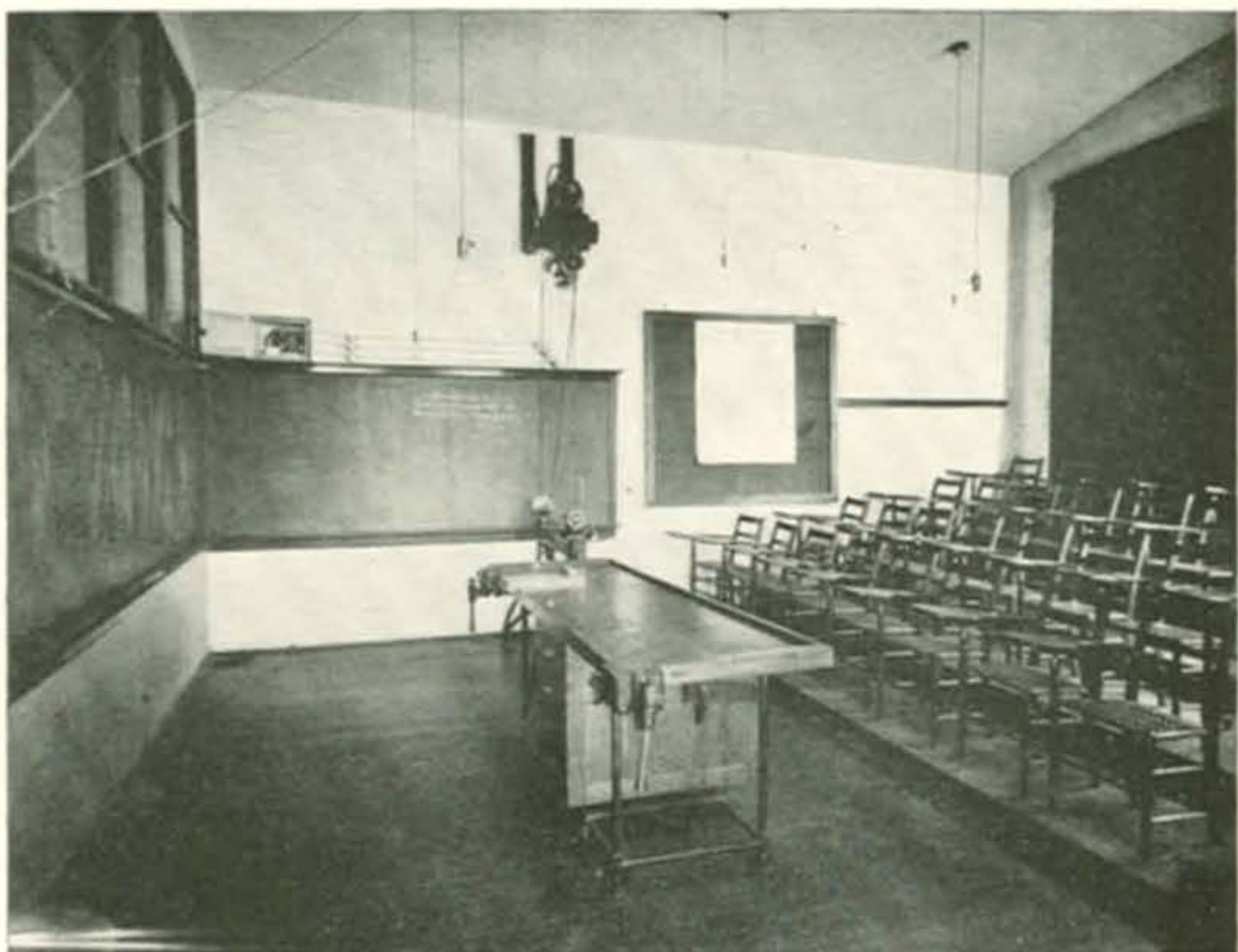
KINDERGARTEN TECHNICS. THEORY OF EDUCATIONAL HANDWORK.

A study in the manipulation of materials suited to the use of children of the kindergarten and primary grades, and discussion of the method of the work. Special attention given to the possibilities of new lines of hand-work. Sewing; paper folding; processes of weaving and basketry work; dyeing of materials; color designing; cardboard construction; clay modeling. Utensils and ornaments that may be used in the home will be modeled in clay, fired, and glazed.

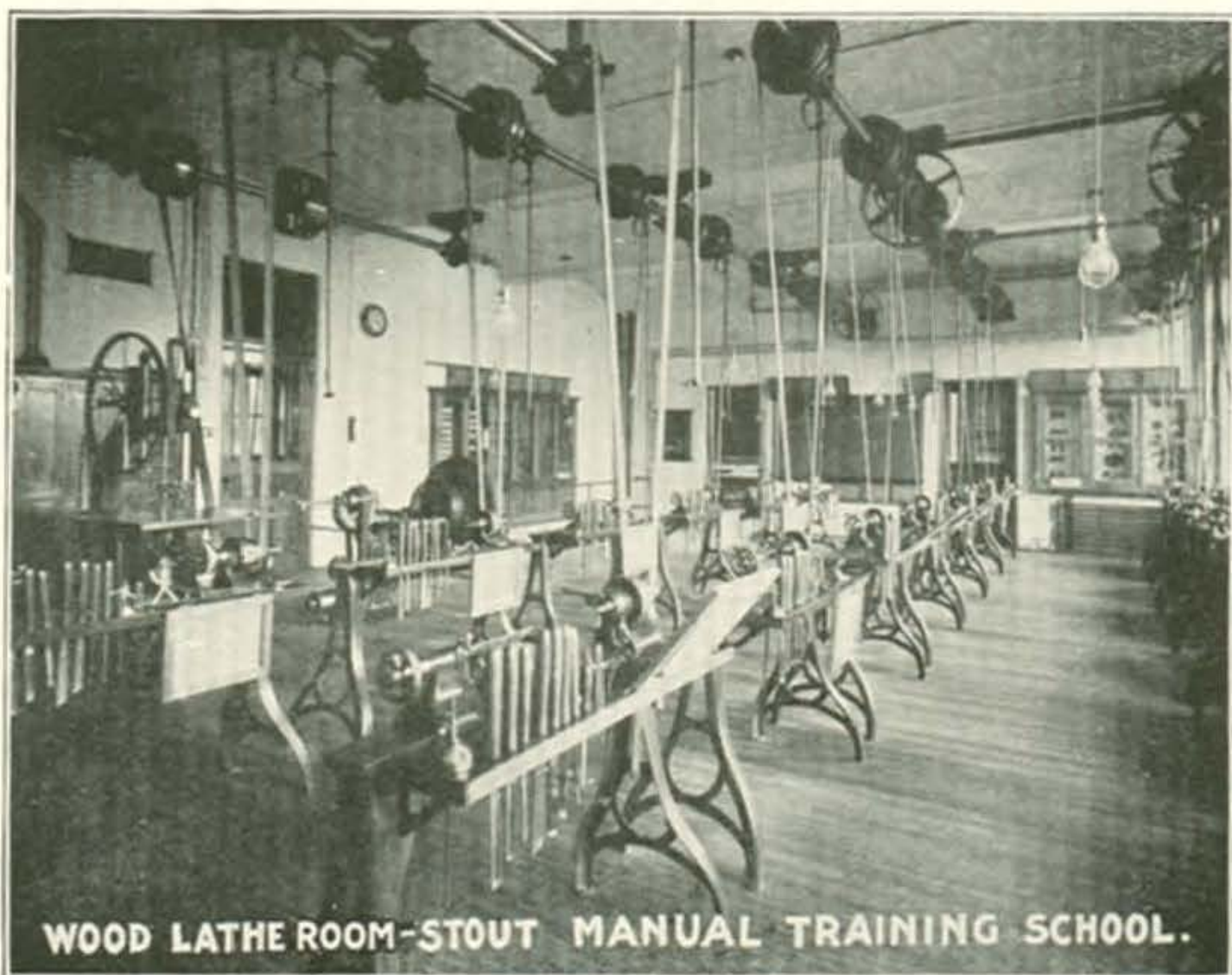
KINDERGARTEN THEORY.

Junior Year.

The psychology of childhood in connection with the uses of the first, second, third, fourth, fifth, and sixth gifts and the occupations of



Demonstration Room for Joinery and Wood Turning.



WOOD LATHE ROOM-STOUT MANUAL TRAINING SCHOOL.

the kindergarten. An analytical study of Froebel's Mother Play through thirteen plays. Games, plays, songs, and stories—how to select and adapt them; principles of presentation. Discussion of recent literature on the theory and practice of the kindergarten as found in educational magazines, reviews, and other publications.

Senior Year.

KINDERGARTEN AND PRIMARY PRINCIPLES AND PEDAGOGICS.

The study of the adaptive modification of Froebel's gifts, occupations, and plays; and a consideration of new modes of illustration and expression. The distinctive characteristics and principles of Froebel as applied to the kindergarten and primary school, and their relation to present conditions. Making of plans of work based on fundamental principles. Selection and classification of stories with practice in adaptation to young children. The meaning, purpose, and origin of games. A study of the essentials of gymnastics—classification and adaptation. Consideration of courses of study in the kindergarten and primary grades. Discussion of methods in teaching reading, language, writing, nature study, number, manual training, and drawing in the primary grades, with observation and practice work.

The work outlined in theory in the first and second year is exemplified and accompanied by observation and practice in the kindergarten and primary grades, and is required of all students.

NATURE STUDY.

Kindergarten, Junior Year. Twelve Weeks.

The course aims to broaden the student's knowledge of nature as well as to furnish material to be used later in practice. The study draws from all the branches of natural science for its material. Under the physical sciences are discussed: Matter, changes of state, composition of the air, water and soil, temperature, and explanations of the different weather conditions. This is followed by a discussion of the relation of inorganic substances to animal and plant life. Plants are then studied with reference to methods of growth and cultivation. and types of different families of plants are also considered. The structure and habits of some of the commoner animals are studied. Among those briefly considered are types of the worms, crustaceans, insects, molluscs, fishes, birds, and mammals. The types of plant and animal families are studied largely in the field. Excursions take the place of part of the class work when practicable. One period per day Monday, Tuesday, Wednesday, Thursday, and Friday.

Lack of space prevents the presentation of outlines of other subjects.

The Stout Manual Training School at the St. Louis Exposition.

At the St. Louis Exposition the Stout Manual Training School made an exhibit of pupils' work in Manual Training, Domestic Art, and Drawing.

This exhibit was awarded the Grand Prize by the Jury of Awards in the Elementary Group of the Department of Education.

The significance of this award is shown by the fact that among all the exhibits from the different States of the Union and from foreign countries, no other school making a similar exhibit in the Elementary Group was awarded the Grand Prize.

The opportunities afforded Training School students for observation of methods of teaching, for practice teaching, and for a study of the organization and administration of these lines of work in a public school thus recognized by a discriminating jury cannot be overestimated.

The County Training Schools

In addition to the public school system, the special features of which are set forth earlier in this catalog, there are in Menomonie two County Schools which are visited with much interest by people who are concerned with the practical things of education. The one is a training school for the preparation of country school teachers—one of the first two organized in Wisconsin, in 1900—the first of the kind in the United States. This school is supported in part by the county and in part by the state. The number in the state is now increased to nine, and it is believed by competent authorities who are conversant with the work of these schools that they furnish the best solution yet proposed for the preparation of country school teachers.

The other school is a County School of Agriculture and Domestic Economy offering a two years' course to pupils who have completed the country school course. In this school instruction is given in agriculture, manual training, domestic science, in the keeping of farm and household accounts, and in such academic work adapted to the needs of the pupils as can be carried in addition to the other work. A building well equipped for woodwork and forge work in manual training is provided. During the winter months a dairy school is in operation. The school grounds form a good sized garden where gardening operations are carried on throughout the spring and summer. A little distance from the building six acres of land are provided on which experimental and illustrative work is carried on by the students in various lines of agriculture. Two schools of this kind are in operation in Wisconsin, established by the county and maintained by the county with state aid. These schools were also the first of the kind to be established in the United States.

The interest which these schools have developed is shown in part by the fact that people from all over the United States have visited them to study their plan of organization and the results of their work.

In the legislatures of two states bills have been introduced this year providing for the establishment of similar schools, the bills in each case being practically a copy of the Wisconsin Law.

MATTERS OF INTEREST TO TRAINING SCHOOL STUDENTS.

Training School students have the use of the well equipped laboratories for science work in the adjoining building, of the complete equipment of the Manual Training building, and of the Physical Training building.

The Mabel Tainter Memorial Library, erected and maintained by one of Menomonie's public-spirited citizens, is one of the best in Wisconsin, and is open to the pupils and teachers in the public schools, and to students in the training schools. Special attention is given to providing books needed for the educational work in the city.

The Stout Manual Training School has a wide reputation, which will be of advantage to the graduates from the training schools, in securing positions after graduation.

No other city in the United States presents such a variety of schools devoted to elementary and secondary education and the preparation of teachers for these fields.

For further information address

L. D. HARVEY,
Supt. Stout Training Schools,
Menomonie, Wis.

Students 1904-'05.

DOMESTIC SCIENCE DEPARTMENT.

Seniors.

Bailey, Pearl L	Menomonie, Wis.
Christianson, Louise	Menomonie, Wis.
Christenson, Marie	Rusk, Wis.
Clark, Jessie	Baraboo, Wis.
Daggett, Florence J.....	Madison, Wis.
Dahlberg, Edith A	Pineville, Wis.
Dahlberg, Hattie	Pineville, Wis.
Dickinson, Mabel	Fond du Lac, Wis.
Farnsworth, Nellie W	River Falls, Wis.
Gallaway, Lou M	Menomonie, Wis.
Hansis, May	Kenosha, Wis.
Heller, F. Ruth	Menomonie, Wis.
Johnston, Margaret	Ellsworth, Wis.
Lesure, Madge	Menomonie, Wis.
McKay, Olive F	Chippewa Falls, Wis.
Meiklejohn, Martha	Fond du Lac, Wis.
Michaels, Ruth E	Berlin, Wis.
Newsom, Emily	Menomonie, Wis.
Richards, Eva	Racine, Wis.
Steendahl, Jeanette	Menomonie, Wis.
Streckenbach, Louise	Green Bay, Wis.
Strong, Sara F	Fort Atkinson, Wis.
Tudhope, Sarah L	Kansas City, Mo.

Juniors.

Adams, Mabel F	Madison, Wis.
Arnold, Mrs. Marion L.....	Marinette, Wis.
Bemis, Edith	Waupaca, Wis.
Christianson, Erica	Menomonie, Wis.
Dana, Nina	Fond du Lac, Wis.
Gray, Mrs Margaret B.	Menomonie, Wis.
Holthoff, Mabel	Ripon, Wis.
Hood, Ruth A	Fairchild, Wis.
Moran, Cornelia	Baraboo, Wis.
Nott, Madge C	Menomonie, Wis.
Steves, Edna	Menomonie, Wis.
Weinfeld, Clarice	Menomonie, Wis.
Whitham, Martha	Platteville, Wis.

KINDERGARTEN DEPARTMENT.

Seniors.

Adams, Jessie	Fairchild, Wis.
Dayton, Almeda	Minneapolis, Minn.
Dudgeon, Wanda	Madison, Wis.
Dillon, Lelia	Mondovi, Wis.
Farquharson, Blanche	Prescott, Wis.
Field, Eleanor	Osseo, Wis.
Field, Martha	Osseo, Wis.
Holm, Johanna	Chippewa Falls, Wis.
Reck, Hazel E.....	Delavan, Wis.
Silverthorne, Hermione	Wausau, Wis.
Smith, Hatty Lou	Fort Atkinson, Wis.
Sumner, Elizabeth L.....	Delavan, Wis.
Lawler, Marguerite	Menomonie, Wis.
Varnell, Eva	Baraboo, Wis.

Juniors.

Austin, Mattie	Madison, Wis.
Bagan, Edith E.	Menomonie, Wis.
Breck, Henrietta J	Merrill, Wis.
Bretl, Lydia L	Algoma, Wis.
Burrowes, Jayne E	New Richmond, Wis.
Caesar, Alice	Rice Lake, Wis.
Dahlberg, Grace	Pineville, Wis.

Grover, Gussie R	Waupaca, Wis.
Hatch, Elsbeth	Baraboo, Wis.
Hugdahl, Helen	Menomonie, Wis.
MacMillan, Evelyn	Neillsville, Wis.
Momberg, Elizabeth	Wausau, Wis.
Peck, Bessie	Hayward, Wis.
Powers, Laura	Black River Falls, Wis.
Slagg, Sadie	Fort Atkinson, Wis.
Von Briesen, Dora	Columbus, Wis.
Zander, Henrietta C.	Algoma, Wis.

MANUAL TRAINING DEPARTMENT.

Seniors.

McComb, Harvey G	Milton, Wis.
Miller, Elmer	Menomonie, Wis.
Snively, Edward T.	Menomonie, Wis.
Steendahl, John	Menomonie, Wis.

Juniors.

Barber, Ellery	Edgerton, Wis.
Condie, Robert H	Mondovi, Wis.
Cole, L. M	Menomonie, Wis.
Hill, Glenn R	Oconomowoc, Wis.
Holeton, George R.	Abbotsford, Wis.
Marsden, Rollin	Edgerton, Wis.
Olson, Louis	Menomonie, Wis.
Stettler, Amos D.	Menomonie, Wis.
Towne, Allen D	Lodi, Wis.
Wall, Steve	Mondovi, Wis.
Webster, F. Huse	Elkhorn, Wis.

Course in Manual Training

FOR THE GRADES IN THE MENOMONIE SCHOOLS,

1905-1906.

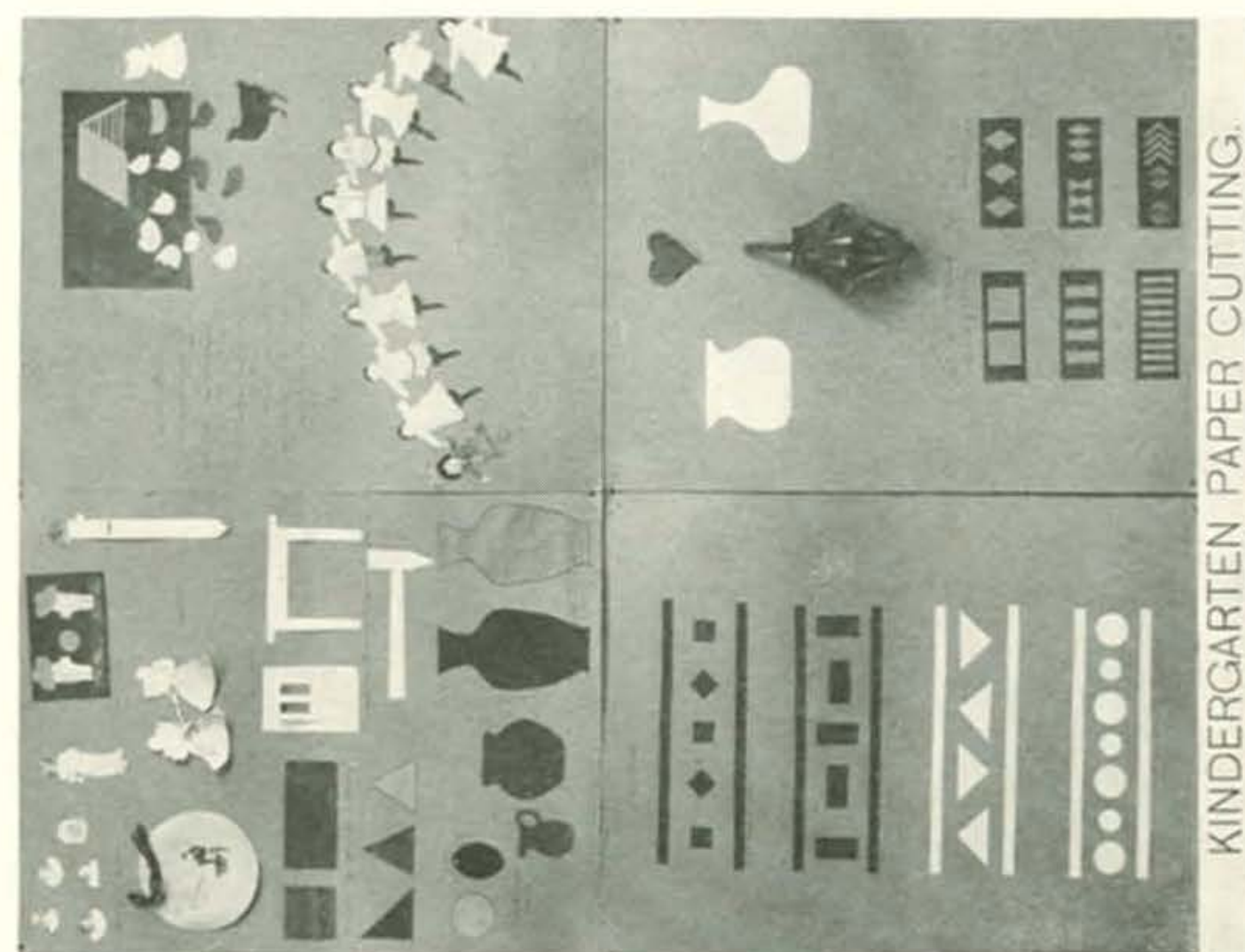
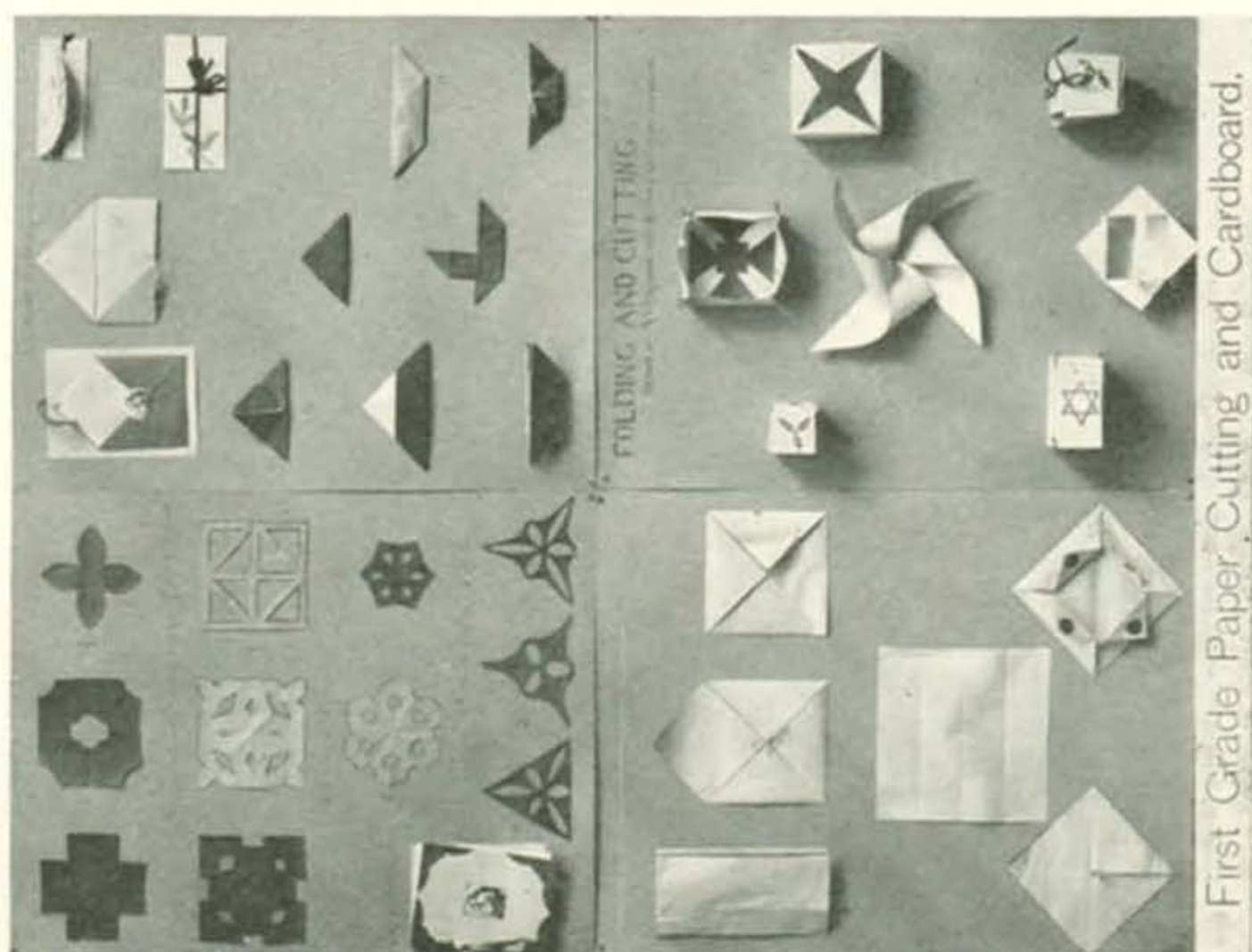
The following course represents the work in Manual Training in its present stage of evolution in the Menomonie schools.

A course in Constructive Drawing is developed in connection with all the tool work.

The work of the Manual Training course is closely related to that of the Art Department throughout.

General Purpose. To give the pupil a broad experience in using a number of materials and tools which not only affords a variety of mental activity and discipline, but which gives a large opportunity for self-expression and progressive individual growth.

The underlying idea in the course is to present a certain amount of prescribed work, involving such fundamental and related operations as seem necessary for the best development. Accompanying the prescribed work, opportunity and encouragement are given to each individual to show his originality and to exercise his inventive powers, either in making a variation of the models or in the form of free work. This work can not be shown here.



Free work growing out of pupils' own need or needs of school is limited by the pupils' capacity and the skill acquired from the regular exercises.

The bringing of principles and their application into close relation throughout the course, tends to vitalize it and aids the student to make a more rational progress through an understanding of and interest in the work.

KINDERGARTEN.

Paper Cutting. 1. Cutting to lines. 2. Perceptual free cutting. (a) Angular objects; (b) Free curved objects. 3. Simple geometrical cutting. 4. Simple folding and cutting based on 8x8 in. squares. 5. Symmetrical cutting based on the $\frac{1}{2}$ and $\frac{1}{4}$ fold of the square and oblong.

Building Blocks. Use Froebel's larger gifts, in simple combinations, to represent things within the child's environment.

Sand Pile. The activities of play life are encouraged here as a means of recreation and development.

Clay. Mass work in modeling geometrical forms and then applying these types to fruits, vegetables, simple instruments, etc.

FIRST GRADE.

Paper Cutting. 1. Preceptual Free Cutting (a) Poses, (b) Animals in action.

2. Conceptual Free Cutting illustrating stories, songs, trades, and games.

3. Geometrical Cutting, using oblongs, triangles, etc. in border and center piece designing.

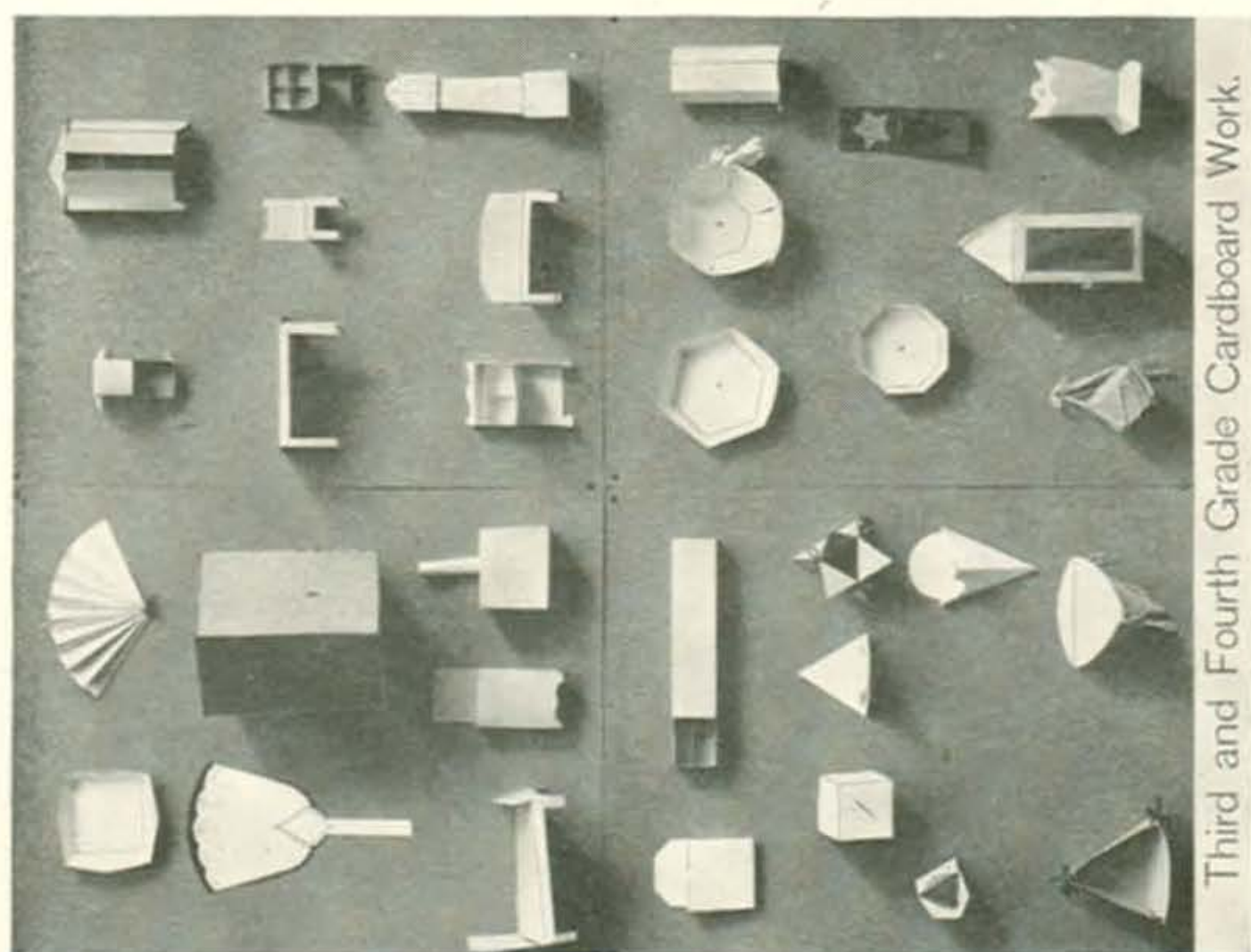
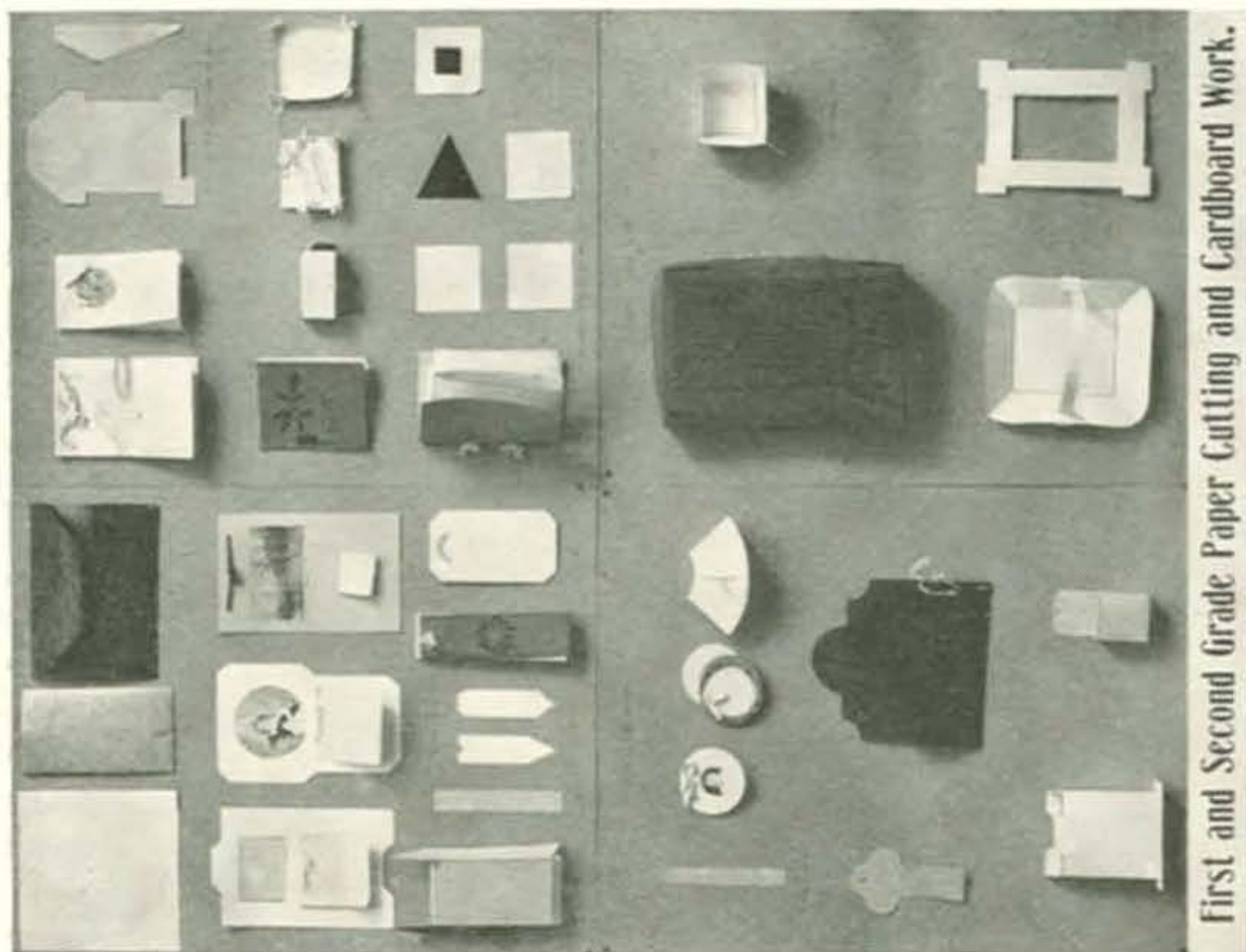
4. Folding. (a) Geometrical folding and cutting of 8x8 in. squares, resulting in a construction whose sides have definite dimensions which the pupils are able to measure. (b) Simple folding.

5. Symmetrical cutting. A continuation of the Kindergarten work but embracing a wider field.

Card Board. Paper and card board work based on geometrical forms has a special educational value in its application to the concrete number work which is carried on in the primary grades. The sequence of models is therefore arranged with a view toward assisting the development of this concrete or constructive number work, as well as embodying such forms of training as are obtained from this phase of constructive work.

Materials Used: Two-ply and three-ply paper, punch, ruler (having one side graded to $\frac{1}{2}$ in. and the other side graded to $\frac{1}{4}$ in.), scissors, and silk floss. Models: Picture Mount, Paper Sack, Book Mark, Sled, Ruler, Fin Wheel, etc.

Clay. A continuation of the Kindergarten work but embracing a wider field.



Textiles. (a) Children draw out and then cut 1-inch or $\frac{1}{2}$ -inch warp strips upon an 8-inch square, leaving a 1-inch margin. By means of different colored wool strips, children work out various designs.

(b) Make a doll's dish cloth of cotton wicking upon a jute-board loom. Size of loom 6x8 inches, and doll's dish cloth 5x7 inches. Border designing.

SECOND GRADE.

Paper Cutting. 1. Perceptual and conceptional free cutting.

2. Geometrical cutting, using circles, triangles, ovals, etc., in designing of wall paper, tiles, etc.

3. Symmetrical cutting is carried on up to the $\frac{1}{8}$ fold of the square, oblong, and triangle, with the attention directed towards its application to the art work, and becoming more and more a phase of it.

Card Board. New Tools and Materials: Four-ply paper, circle maker, paste applied with toothpick, and ruler having one side graded to $\frac{1}{4}$ in. and the other to $\frac{1}{8}$ in. Models: Blotting Pad, Easel, Recipe Book, Circle Maker, Pen Wiper, Lamp Shade, etc.

Clay. 1. Two-proportion work emphasizing essential detail. (a) Tile and Panel form work through the outlining and the "building up" methods.

2. Simple pottery. (a) Common utensils such as bowls, saucers, jars, cups, etc.

(b) Greek and Indian pottery with their characteristic designing.

(c) Original designing of vase forms.

Weaving. 1. Make mats similar to First Grade, using $\frac{1}{4}$ in. measurements.

2. The weaving of a rug, dish cloth, bag, or curtain, upon a paper box-loom, which has been made previously by the pupil.

Designing in checks, stripes, or plaids. Materials: Miners' wicking and knitting cotton.

Raphia. 1. Simple work in wrapping, making a napkin ring, wall pocket, broom holder, or picture frame around card board forms, which the pupils have previously designed.

2. Make mat or basket from braid of three strands.

THIRD GRADE.

Card Board. New Tools and Materials: Ruler graded to $\frac{1}{16}$ in., a 6-in. 45-degree triangle, compass, skew knife, desk board, and five-ply and six-ply paper. Models: Wall Pocket, Match Box, Candy Box, Post Card Box, Button Basket, Fan, etc.

Clay. 1. High relief panel work using geometrical and conventional flower designs.

2. Simple statuary work such as animals at rest or in action, etc.

3. Study of modern pottery: (a) Potter's wheel. (b) Preserving and hardening of clay in kiln. (c) Decoration by means of pigments. (d) Glazing.

Textiles. A study of the development of weaving up to the wooden hand loom, shuttle, and heddle stage. Pupils will use these inventions in the making of a woolen rug, mat, or silkoline hand bag. The work is correlated with that of the Art Department through a study of simple center piece designing in connection with the water color work.

(a) Pupils will use more simple designs in their weaving.

(b) Double weaving around card board forms, such as a shopping purse, cap, sweater, etc.

Raphia. 1. Make basket, using wool twine as filler, with simple loop stitch or tie stitch.

2. Make needle case, using reed for filler.

FOURTH GRADE.

Card Board. The making of useful models embracing some of the more difficult geometrical forms.

New Tools: A 6-inch 30x60 degree triangle, a 2-foot ruler, and heavy jute and pulp boards.

Models: Cylindrical Pencil Box, Equilateral Triangular Fancy Box, Taper Holder, Waste Basket (based on the quadrangular prism), etc.

The latter part of the year will be devoted to such work in book repairing as is adapted to pupils' capacity and training, such as replacing loose leaves, repairing torn leaves and frayed corners, gluing supers, and sewing and gluing loose sections, etc.

Clay. Continuation of Third Grade work: (a) Representative groups such as Birds' Nest and Family, Plate of Fruit, Feudal Castle, King Arthur's Tournament, etc. (b) Simple molding and casting in plaster paris, using gelatine and sand molds.

Textiles. 1. A study of modern machine weaving.

2. A weaver's loom, made by the High School joinery class, may be used by a special group in the making of a "union rug," using the plain or the tie stitch.

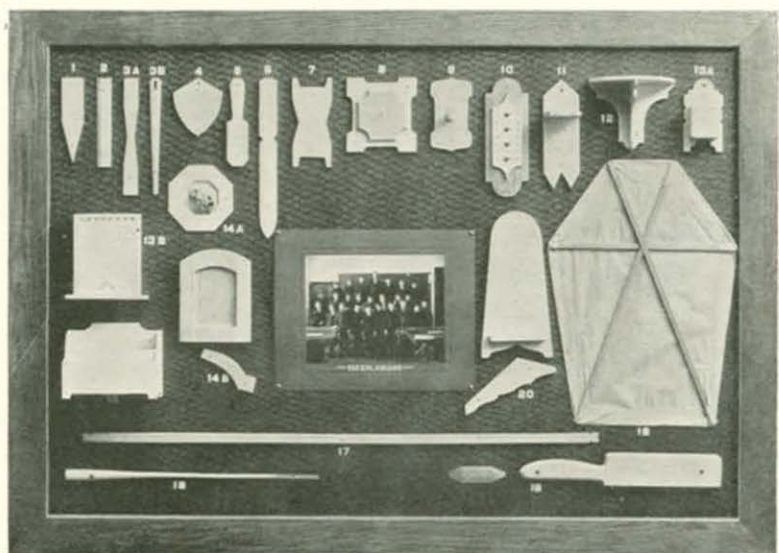
Raphia. 1. An Original Raphia Basket decorated in a simple color design, using the figure eight stitch and No. 4 reed as filler.

2. Make a "union porch pillow" as a combination of weaving and raphia.

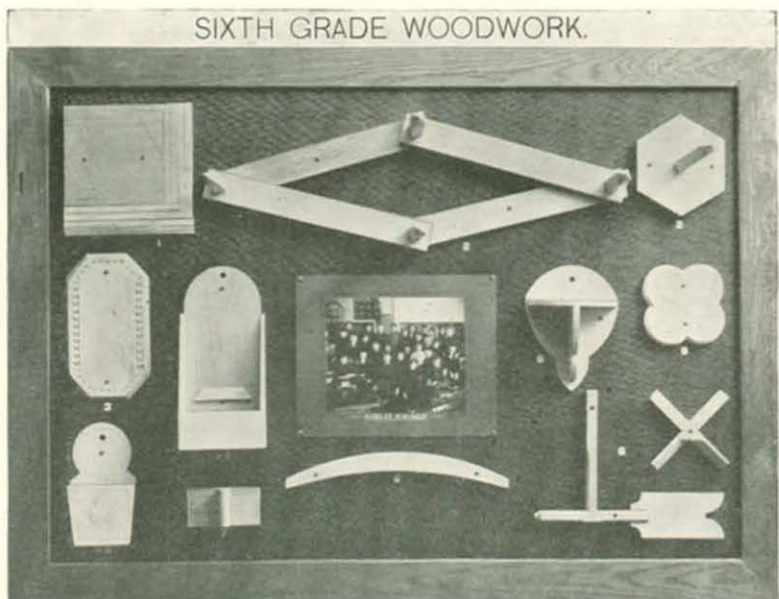
Note.—The amount of work required in basketry is not great because of its limited educational value. Variety of training instead of technical skill in a narrow field is the work of the public school.

Woodwork. Purposes: To give such fundamental exercises in the use of the knife and simple bench tools as are needed in bringing out and applying the basic principles of Sloyd work. The wood-working in

FOURTH AND FIFTH GRADE WOODWORK.



SIXTH GRADE WOODWORK.



the last half of the Fourth Grade and through the first half of the Fifth Grade, is centered in its development about the simplest of tools—the knife. All other tools are a modification of the knife or wedge idea; and so in this elementary work these tools come in as conveniences by which the mastered knife exercises may be more speedily accomplished as they re-appear in the course.

Materials: $\frac{1}{8}$, $\frac{3}{16}$ and $\frac{1}{4}$ in. strips of pine or basswood.

Tools Used: Pencil, Sloyd Knife, Try-Square, Back Saw, Coping Saw, Hammer, Nails, a Special Smoothing Plane, Bench Hook, and File.

Models: 1. Sailboat, involving knife exercises, No. 1 straight edge cut; No. 2 cross cut; No. 3 oblique cut. 2. Ruler, involving knife exercises, No. 1, 2, and 4 bevel cut.* 3. Match Scratch. 4. Fish Line Winder. 5. Blotting Pad. 6. Key Rack. 7. Paper File.

*Note.—Space does not permit stating the different knife exercises involved in the balance of the course. When two models are marked a, b, under the same number, only one is required.

Later on pupils make simple constructions derived from their play life in its imitation of adult activity. Some of these are Wagons, Furniture, Wheel Barrow, Bank, Bird House, etc.

FIFTH GRADE.

Woodwork. Continuation of the fourth grade course, with the attention directed toward problems which require a consideration of the third dimension. This calls for greater manual dexterity in the handling of $\frac{1}{4}$, $\frac{3}{8}$, and $\frac{1}{2}$ in. lumber.

Models. 8a. Match Box. 8b. Post Card Box. 9a. Octagonal Picture Frame. 9b. Photo Holder. 10. Paper Knife. 11. Bow and Arrow. 12. Tip Cat and Bat.

As an application of the previous work the problems of kites are taken up. Ten different kinds are made through individual work. These problems bring out the squaring of the sticks in three dimensions, half-and-half knife joints, and constructive thinking which considers strength, balance, lack of weight and aero-planes.

Bent Iron. The use of this material gives opportunity for a limited number of valuable experiences in Art and Constructive work which are not brought out in any of the other materials.

Eight fundamental elements and their simple combinations are used as a basis in executing the following models: 1. Pen Rack. 2. Tea Mat. 3. Easel. 4. Bridge. 5. Candle Stick. 6. Picture Frame. 7. Glass Holder. 8. Wall Pocket. 9. Lamp Shade. 10. Hall Lamp.

Bent iron can be handled easily in an ordinary school room, inasmuch as it is tidy work and as the equipment requires little space for storing when not in use.

SIXTH GRADE.

Models: 1. Sawing Exercise—Involving squaring with try-square and pencil, cross-cut sawing, gauging with marking gauge, rip-saw

cut, and diagonal miter saw cut. Resultant hexagon to be used as center part of ring toss.

2. Ring Toss—New Exercises: planing an edge, boring of holes, and pivot fitting.

3. Bread Board—New Exercises: the seven primary steps for "squaring up" a board; chip carving of center design.

Note.—Space does not permit stating the different exercises involved in the balance of the sixth grade work.

4a. Scouring Board. 4b. Whisk Broom Holder. 5. Coat Hanger. 6. Shelf (original). 7. Teapot Stand.

SEVENTH GRADE.

Woodwork. In this grade there is made more thorough study and application of the principles gained in the preceding work.

Models: 1. Sand Paper Block. 2. Book Rack. 3. Blotting Pad. 4. Foot Stool. 5. Axe Handle. 6. Medicine Cabinet (Free work)—this project must not involve new exercises. Before beginning actual work on this project a working drawing is made, and the different parts are laid out with a view to economy of material and labor.

Special attention is given to the proper care of tools in regard to fine adjustments and keeping a "working edge."

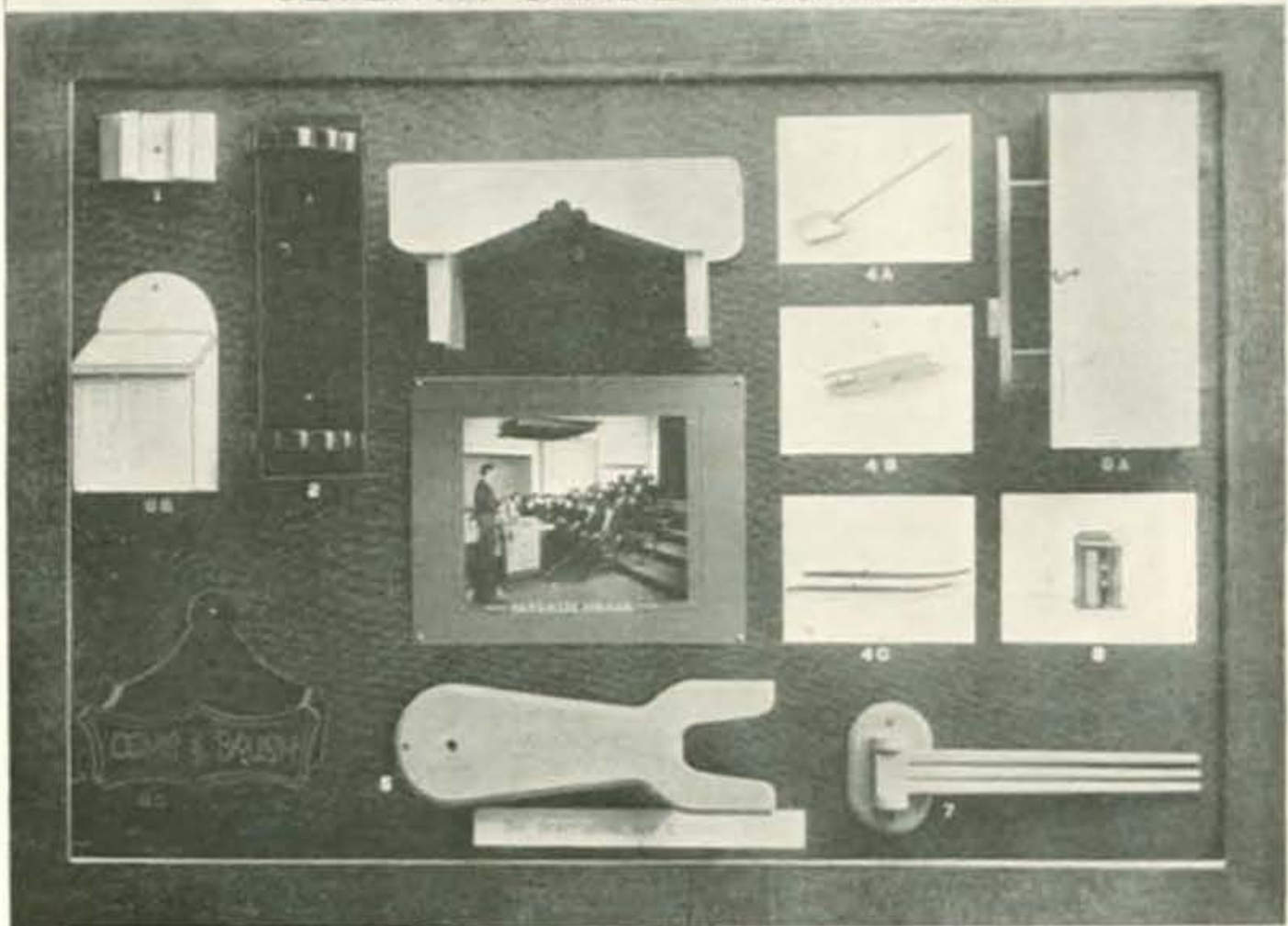
EIGHTH GRADE.

Woodwork. The first half of the year is devoted to a culmination of the aims stated in the seventh grade, with the added idea of bringing in tools such as gouges, gauges, scrapers, etc., which call for finer control of the hand.

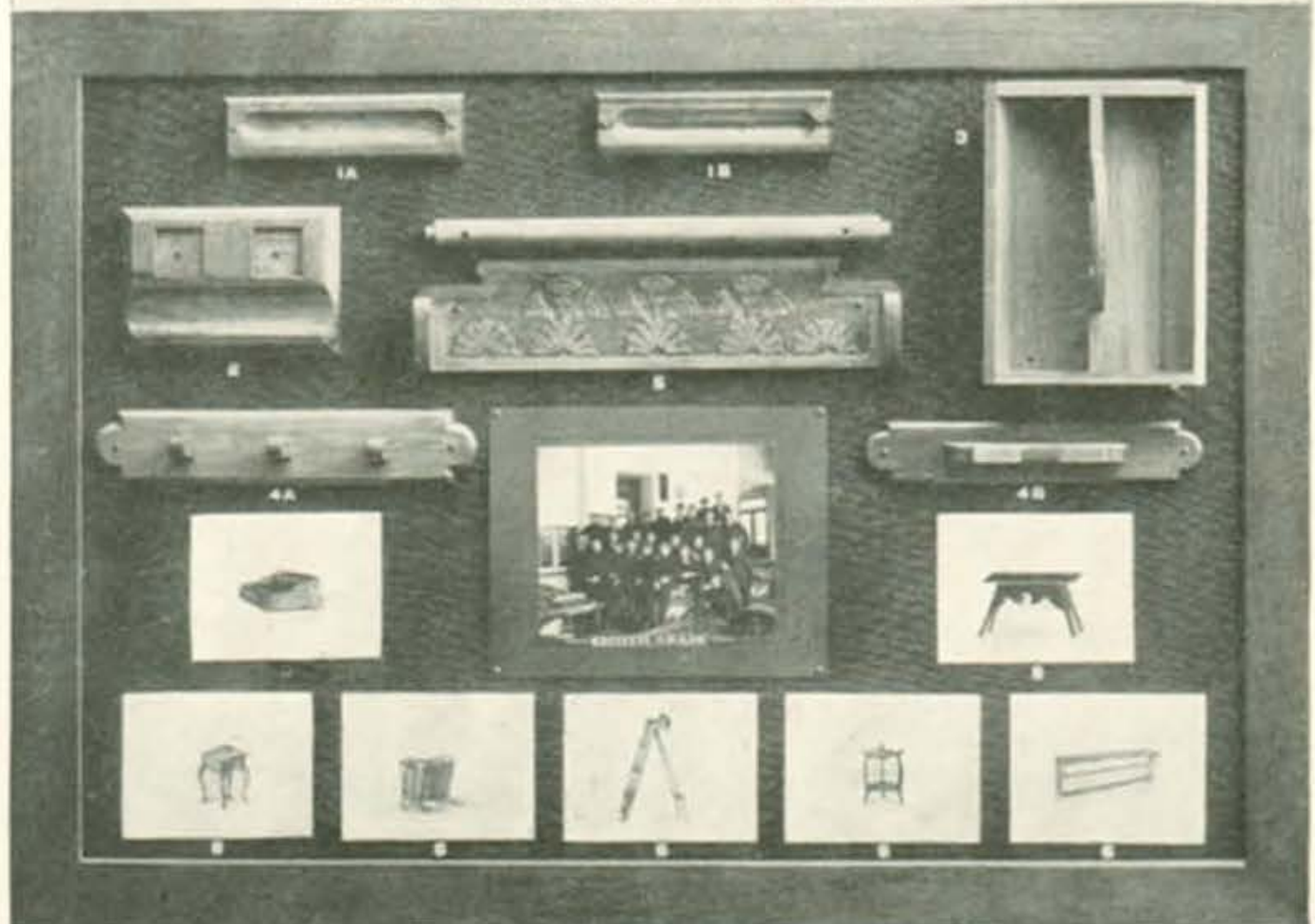
In the second half of the year, the potentiality gained through the previous discipline is given freedom in the form of original work. This causes a higher appreciation of the value of advanced technics and an awakening interest in processes, the mastery of which are essential to further advancement in the field of construction.

1. Ink Stand. 2. Knife and Fork Box (concealed mortise and tenon joint). 3a. Clothes Rack (dowel joint). 3b. Whisk Broom Holder. 4. Towel Roller (dove-tail joint). 5. Picture Frame, (a) lap joint; (b) butt mitre joint; (c) lap and mitre joint. 6. Free Work: A variety of original projects, involving the application of previous principles constructed by individuals, groups, or class, such as: Step Ladder, Plate Rack, Tool Rack, Tabourets, Tables, Umbrella Stand, Collar and Cuff Box, Working Benches, Cloth Loom, Book Case, Chairs, etc.

SEVENTH GRADE WOODWORK.



EIGHTH GRADE WOODWORK.



High School Courses.

COURSE IN JOINERY.

Purpose: To instill a knowledge of the principles of joinery by teaching the use and care of wood-working tools. To develop skill in their use by means of progressive exercises involving the different tools and a series of the different joints used in joinery. The applications of the joints are shown in the construction of a few finished products.

Exercises.

1. Planing, squaring stock up to given dimensions. Tools used: Saw, square, plane, knife and gauge.
2. Sawing. Use of bevel and steel square.
3. Chiseling. Tools used: Plane, square, knife, saw and chisel.
4. Inlaying blocks.
5. Mortising. Use of mortising chisel and mortising gauge.
6. Mortise and tenon joint.
7. Splice.
8. Open double mortise and tenon joint.
9. Dovetail joint.
10. Double mortise and tenon joint with pin.
11. Keyed mortise and tenon joint.
12. Mortise and tenon with relish.
13. Elliptical mat. Practice in gluing. Laying out an ellipse.
14. Dovetail box. Application of dovetailed joint.
15. Lap dovetail card index drawer.
16. Drawing board. Use of plow in tongue and groove joint.
17. T-square.
18. 45 deg. triangle. 30x60 deg. triangle.
19. Scoop. Gouge practice.
20. Finish piece. Illustrating filling, staining, varnishing and rubbing.
21. Handkerchief box. Tongue joint. Application of rubbed finish.

Joinery is given three seventy-minute periods each week during the year.

COURSE IN WOOD TURNING.

Purpose. To familiarize pupil with wood turning tools and lathe operations, the requisite skill being acquired by means of exercises embodying the various methods. The course follows and is supplemental to that of joinery, the whole forming a foundation for the succeeding work in pattern making.

Exercises.

1. Plain cylinder. Involving: Use of gouge in roughing and finishing; centering and preparing stock for lathe; sharpening tools; speed of lathe.
2. Use of turning or skew chisel.
4. Concave turning with gouge.
5. Convex and concave turning. Practice with chisel and gouge.
6. Chisel handle. Polishing in lathe.
7. Turning tool handle.
8. Mallet.
9. Bracket. Relation of bench and lathe work.
10. Egg.
11. Rosette. Face plate work.
12. Additional face plate work.
13. Ring. Making and use of chuck.
14. Plate. Practice in chucking.
15. Goblet. Inside turning.
16. Napkin ring. Finishing on mandrel.
17. Hat rack. Practice in assembling.
18. Towel rack. Plain and face plate work combined.
19. Candelabra. Same as above.
20. Mirror frame. Built up work.

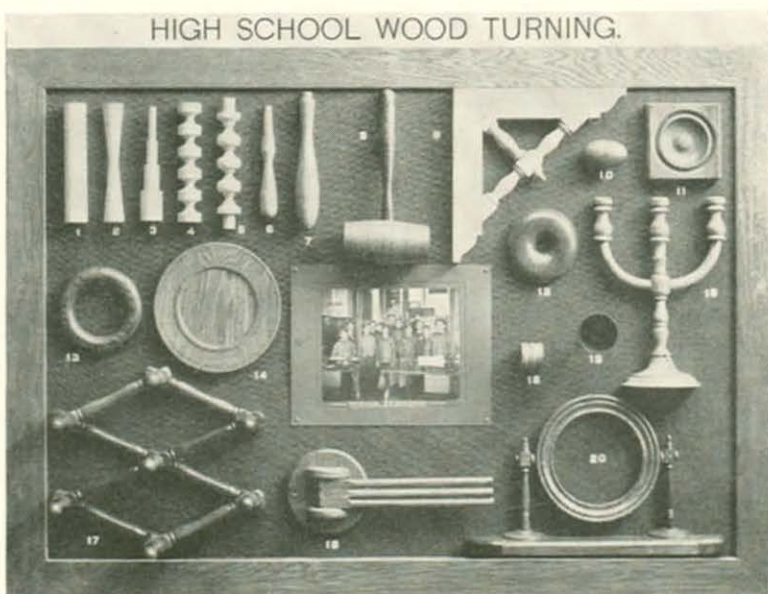
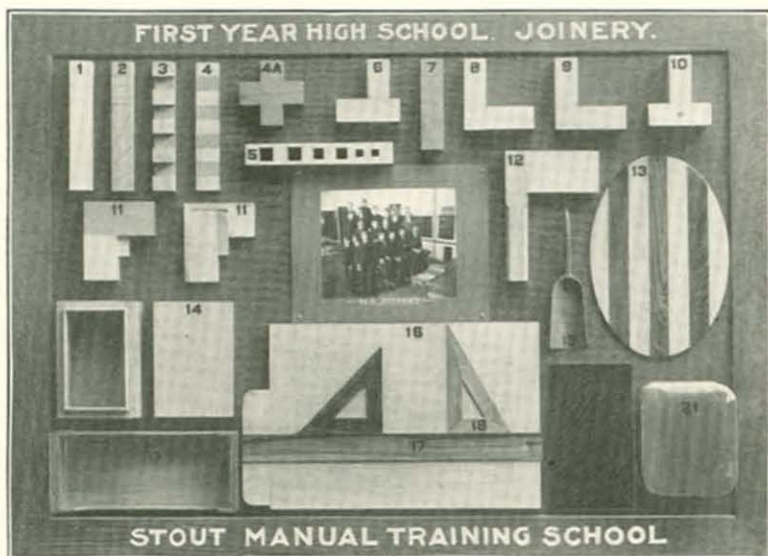
Wood turning is given during the first six weeks of the second year, three seventy-minute periods each week.

COURSE IN PATTERN MAKING AND MOLDING.

Purpose. To give pupils practical acquaintance with typical shop processes employed in pattern making. This is accomplished by making a series of patterns, from the simple solid pattern to the more complex parted and cored patterns, each exercise illustrating some new or special method practice in molding.

Exercises.

1. Ribbed pattern. Illustrates draft and shrinkage. Molding entire mold made in nowel; care in packing flask; gate cutting and venting. Finishing of pattern.
2. Shoe. Illustrate internal draft. In molding, same principles as above are employed.
3. Plain wrench. Use of match in molding. Half of mold made in each flask.
4. Wrench. Same as above. Practice in molding with irregular parting plane.
5. Dumb-bell. Simple two-part pattern.
6. Coupling. Two-part pattern with plain core.
- 6A. Core-box for No. 6.
7. Gland. Two-part pattern; irregular core.
- 7A. Core-box for No. 7.



8. Pipe tee.
- 8A. Core-box for No. 8.
9. Pipe return bend. Split pattern. Setting core with chaplets when molding.
- 9A. Core-box for No. 9.
10. Cylinder. Split pattern. Balanced core.
- 10A. Core-box for No. 10.
11. Pillow block. Special or "D" core print.
- 11A. Core-box for No. 11.
12. Face plate. Illustrates allowance for finish. In molding, setting a vertical core.
- 12A. Core-box for No. 12.
13. Grooved pulley. Solid pattern. Molding by means of a core.
- 13A. Core-box for No. 13.
14. Grooved pulley. Split pattern. In molding, use of cheek or three-part mold.
15. Wheel. Built up pattern. Construction of wooden face plate.
16. Stop-cock. Illustrates more complicated coring.
- 16A. Core-box for No. 16.
- 16B. Valve stem for No. 16.
- 16C. Core-box for No. 16.
17. Jack screw. Ribbed pattern. Use of fillets.
- 17A. Core-box for No. 17.
18. Built up work.

Pattern making is given during the last 30 weeks of the second year in the High School, three seventy-minute periods each week.

COURSE IN FORGING.

Purpose. To teach, by means of a progressive series of models, the fundamental principles of forging, each new model containing a new principle combined with some previously taught.

Exercises.

1. Drawing out stock to a square cross-section of given dimensions.
2. Ring. Drawing stock of irregular dimensions to round cross-section and bending.
3. Drawing stock flat and bending.
4. Double Ring or Figure Eight. Same as Ex. 3.
5. Gate Hook. Drawing, tapering, bending and twisting. Fullering upon edge of anvil.
6. Angle. Forged from $\frac{1}{2}$ -in. stock, fullered and drawn to $\frac{1}{4}$ -in., leaving enough surplus metal in center to form a square corner.
7. Cross Bar for Trace Chain. Forged from $\frac{1}{2}$ -in. round iron. Up-setting, drawing to taper, bending and punching.

8. Model bringing in the use of the finishing tools, the fuller, the swage and the flatter. Principles involved: Upsetting, fullering, drawing and swaging.
9. Fork. New principle involved, splitting.
10. Practice in punching, splitting, bending at right angles. Finishing with flatter and swage.
11. Hook. Upsetting in heading tool. Fullering, drawing, upsetting, bending and drilling.
12. First exercise in scarf welding.
13. Flat Ring. Scarf weld.
14. Ring and Eye. Scarf and lap weld.
15. Bolts. Welded heads. Practice in screw cutting.
16. Hook and Chain. Practice in assembling.
17. Tongs. Principles involved: Fullering, drawing, punching, riveting and welding.
18. Lathe Tools. Round nose. First exercise in working steel. Tempering.
19. Threading tool.
20. Cutting-off tool.
21. Boring tool.
22. Side tool.
23. Diamond point tool.
24. Fork. Additional practice in working steel.
25. Hardie.
26. Set Hammer. Use of punch and drift.

The Forging Course is given in the third year of the High School, three seventy-minute periods each week.

COURSE IN BENCH WORK AND MACHINE SHOP PRACTICE.

Purpose. To teach some of the fundamental operations in bench and machine tool work. This is accomplished by the making of practice pieces, the construction of which involves the typical use of one or more tools, the order in which these are given being determined by educational principles.

Exercises.

1. Marking out work; use of flat chisel in chipping narrow surfaces. Cast Iron.
2. Chipping a broad surface; use of flat and cape chisel. Cast Iron.
3. Cutting key-way in a shaft; use of prick punch; key-seating rule and drill press. Machinery Steel.
4. Filing chipped edges of piece of Ex. 1. Cast Iron.
5. Filing curved Templates used in the mechanical drawing course; polishing flat surfaces. Sheet Iron.
6. Filing surfaces square with each other; also at 120° . Cast Iron.
7. Filing to a fit; draw filing; polishing. Brass.



8. Laying out and drilling holes in required locations; riveting pieces at right angles. Wrought Iron.
9. Hand Turning in Speed Lathe; straight turning and turning to fit center gauge. Brass.
10. Oil-hole Cap. Hand turning and drilling in brass.
11. Oil-hole Plug. Curved work in hand turning in brass.
12. Brass Ornament. More difficult hand turning in brass.
13. Desk-rail Standard. More difficult hand turning in brass.
14. Grinding a set of lathe tools for use in Armstrong Tool Holders. "A," Right and Left Diamond Points. "B," Right and Left Side Tools. "C," Right and Left Round Nose Tools. "D," Threading Tool. Self-Hardening Steel.
15. Use of Shaper and Hand Taps. Cast Iron.
16. Centering, countersinking, squaring (at one end only), turning and beveling. Piece just as smoothing tool left it. Cast Iron.
17. Squaring up to a shoulder; rounding an edge. Head only filed and polished, the body of pin being as the turning tool left it. Machinery Steel.
18. Chucking and Boring in the lathe. Cast Iron.
19. Cast Iron Plug. Taper turning, $\frac{3}{4}$ in. taper per foot. Fits in piece of Ex. 20.
20. Taper boring, taper $\frac{3}{4}$ in. per foot. Cast Iron.
21. Outside Thread Cutting, U. S. Standard Thread. Fits in piece of Ex. 22.
22. Inside Thread Cutting. Cast Iron.
23. Nut Arbor. Cutting common V-thread; use of milling machine; case hardening. Machinery Steel.
24. Hexagonal Nut. Use of machine taps; "slabbing" on milling machine; squaring up, using Nut Arbor of Ex. 23. Machinery Steel.
25. Key-way milled in a shaft. Machinery Steel.
26. Use of Shaper in Square and Angular work; Sliding Fit. Cast Iron.
27. Gear Cutting. Use of Index Head on Milling Machine. Inside key-way cutting. Machinery Steel.
28. Use of Planer in Square and Angular planing. Cast Iron.
29. Stand of Gears. Laying out and drilling holes an exact distance apart. Making running and driving fits. Gears and stand cast iron; studs. Machine Steel.
30. Pipe Center. Turning taper to fit a given taper hole. Turning taper of cone by means of compound rest.

The above exercises are followed by the construction of some small machine, like a bench lathe or a drill press, involving the application of the principles already learned.

Machine shop practice is given in the fourth year of the High School, three seventy-minute periods each week.

MECHANICAL DRAWING IN THE GRADES.

The general purpose of the course is to familiarize pupils early with the use of the principal tools used in mechanical drawing, and to inculcate ideas of accuracy and neatness. The effort is also made to impart a knowledge of the reading and the making of simple working drawings, a subject intimately related to the manual training work.

The course begins in the seventh grade and is carried through the eighth, the work being wholly executed in pencil, and at present the sheets in each grade are nearly alike in character, though frequently necessary variations occur.

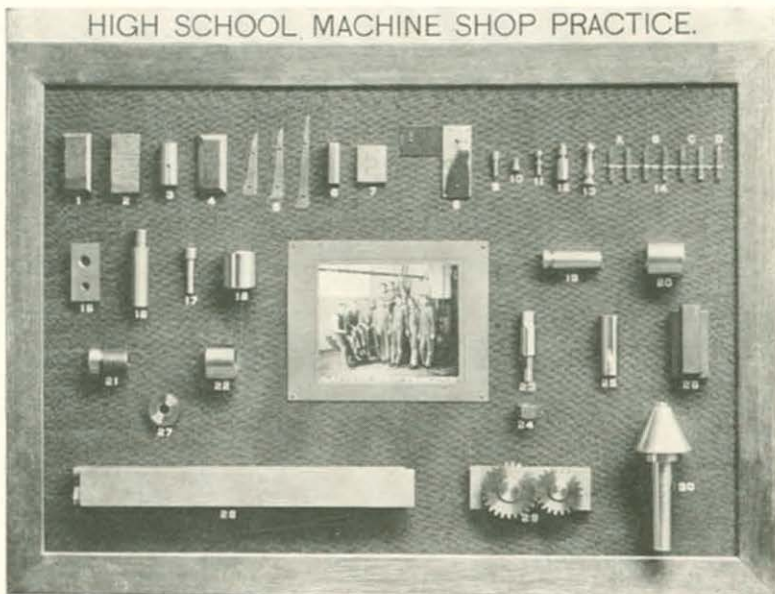
Sheets: 1. Horizontal and vertical lines. 2. Squares and hexagons. 3. Interlacing designs. 4. More difficult interlacing designs. 5. Isometric of cube and prism and objects based upon these. 6. Extension of the idea of the previous sheet. 7. Working drawing of a simple woodwork joint with isometric of same. 8. Working drawing of a bench hook. 9. Isometric of previous sheet. 10. Assembly and detail drawing of a mortise and tenon joint. 11. Isometric of the assembly and detail drawings of previous sheet. 12. Plain dovetail joint assembled and detailed. 13. Isometric of previous sheet. 14. Assembled working drawing of a clock-shelf. 15. Working details of previous sheet. 16. Details of a towel roller. 17. Towel roller assembled from previous sheet. 18. Half size drawing of a footstool. 19. Working drawings of a table, scale: 3 in. equal 1 ft.

MECHANICAL DRAWING IN THE HIGH SCHOOL.

The general purpose is the same here as in the grade work, though elaborated, especially in the direction of the study of projection principles and the cultivation of the "constructive imagination." To promote this aim, a course in simple descriptive geometry runs parallel to the course in drawing as outlined below. By the adoption of this plan each course throws light upon, and adds interest to the other, and hence better and more rapid progress is made thereby. The drawing continues through the first two years of the high school and is all ink work.

Sheets: 1. Horizontal lines. 2. Horizontal and dotted lines. Vertical lines. 3. Various kinds of lines at 45° . 4. Concentric circles, full. 5. Concentric circle, dotted. 6. Tangent lines and semi-circles. 7. Tangent lines and arcs less than semi-circles. 8. Tangent circles. 9. Practice with the hard rubber curves. 10. Application of curves to the drawing of an ellipse. 11. Prisms and pyramids. (First sheet in the application of projection). 12. Parallel sections. 13. Oblique sections. 14. Development of hexagonal prism. 15. Of square prism and cone. 16. Of truncated hexagonal pyramid. 17. Of truncated cylinder. 18. Of a flaring pan. 19. Of

HIGH SCHOOL MACHINE SHOP PRACTICE.



Students Making Benches for Elementary Wood Turning Room.



an octagonal shaft fitting over the ridge of a roof. 20. Of a "three-piece elbow." 21. Of a "T"-joint between two pipes of different diameters. 22. Of a rectangular pipe intersecting a cylinder obliquely. 23. Of an oblique cone. 24. Of a conical flange fitting around a pipe passing through a roof. 25. The helix. 26. Application of previous sheet in drawing hexagonal bolt and nut. 27. Working drawing of a butt joint used in sheet iron work. 28. Working drawing of a shaft coupling. 29. Of a journal box. 30. Of a flywheel for a vertical engine. 31. The "V" screw thread. 32. The square thread. 33. Spur gearing. 34. Bevel gearing.

Machine sketching, tracing, blue-printing, and such work as is required in the modern drafting office is given throughout the course.

COURSES IN DOMESTIC SCIENCE.

Purpose. The purpose is two-fold. It has to do, first, with the development of the individual and, second, through this, with the development of the home.

The general purpose is to present such fundamental principles and their application in systematic exercises and operations as shall give to the pupil habits of attention and exactness, the power of logical thought, a high ideal of the dignity of labor, and the ability to use her powers definitely and intelligently in the production of her ideal of perfection. At the same time there shall come to her, knowledge and experience that will be of direct use and effectiveness in her life and in her home.

To this end, the course includes a definite amount of study and systematic application that must precede the working out of individual ideas and inventions, though opportunity is given in the application of known principles and operations for originality and self-expression. Underlying the whole course, popularly called Domestic Science, which includes Domestic Art, Domestic Economy and Domestic Science proper, is the purpose to teach the pupil to think clearly, logically and purposefully about whatever the operation in hand may be, and to carry into her own home the classified knowledge, experience, and effectiveness resulting from the work in this course.

Grade Courses.

SEWING.

Third Grade.

1. Practice Stitches on Canvas: Running, basting, waist-seaming, over-seaming, over-casting, catch-stitching, cross-stitching.
2. Invention: Application of stitches to some article of use, design by pupil.
3. Cotton Chart: Notes in cotton, growth, culture, etc.

Fourth Grade.

1. Hems and Hemming: Practice hems; paper—1 in.— $\frac{1}{2}$ in.— $\frac{1}{4}$ in.; paper—square and mitred corners; cloth— $\frac{1}{2}$ in. hem, square, and mitred corners applied to muslin square.
2. Application of Hems: Small doiley designed by pupil, outlined in running stitch; small pillow-case—scale, $\frac{1}{4}$ in.—1 in.
3. Practice Band: Small ruffle on band.
4. Application of Band: Small gingham kitchen apron—scale, $\frac{1}{4}$ in.—1 in.
5. Invention: Small quilt, handkerchief, etc.
6. Apron for Pupil: Material provided and work done by the pupil.
7. Notes on Cloth: Kinds, manufacture, etc.

Sewing in the Third and Fourth Grades is given in the regular school room under the direction of the grade teacher, two thirty-five-minute periods each week.

Fifth Grade.

1. Practice Darns: Design of plain weaving, weaving with yarn to learn stitch; design of square darn on paper, square darn in stockinet; design of pointed darn on paper; pointed darn in stockinet.
2. Application of Darns: Darning of stockings; designing of doiley, working of doiley with a combination of outline and darning stitch.
3. Doll's Outfit—scale $\frac{1}{4}$ in.—1 in. Drafting of pattern of skirts, drawers, chemise; making of garments from muslin; making of dress and hat.
4. Application of preceding principles. Simple dress for small girl, fitted usually to self.
5. Practice Darning in Cloth: Designs, darning on cloth of the following darns—straightway, bias, straightway bias, corner, patch.
6. Application of Darning: Darns put upon garments.
7. Compositions on uses, cost and manufacture of materials used.

Sixth Grade.

1. Practice Patching: Hemmed patches in gingham and calico; overseamed patches in gingham and linen; circular patches on striped materials and in linen.
2. Application of Patches: Towels, table-linen, garments.
3. Practice Stitches and Patches on Flannel: Fancy stitches, scallops, eyelets, seams, bindings.
4. Applications of Flannel Work: Small flannel skirt.
5. Practice Seams: Overcast, felled, French bound.
6. Practice Plackets: Hemmed, bound, bias, faced, gussets.
7. Compositions on gingham, flax, and wool in connection with materials used.

Seventh Grade.

1. Drafting of patterns for underclothes.
2. Application of preceding work in the cutting, fitting, trimming and making of a skirt, pair of drawers, corset cover or chemise and gown.

Sewing in the Fifth, Sixth, and Seventh Grades is given in the sewing-room of the Manual Training Building, two seventy-minute periods each week.

FOOD WORK.

Eighth Grade.

STUDY AND RECITATION-ROOM WORK.

1. **The human body:** General structure and physiology of the lungs, digestive organs, and organs of excretion; special study of digestion, absorption, metabolism and assimilation.
2. **The essentials of good health:** Good food, pure air, pure water, personal cleanliness, and intelligent care of the body.
3. **Foods:** Definitions; physical and chemical properties; classification according to composition into proteids, carbo-hydrates, fats, mineral matters; discussion of each class including composition, digestion, use in the body, illustrations, and source of supply; the manner of growth, method of manufacture, and market value of common food stuffs under each class.
4. **Air:** Composition, physiological uses, oxidation in the body; Combustion—definition, essentials, fuels, products.
5. **Water:** Sources, kinds; chemical and physical properties; effects of heat and cold; physiological uses; use as cleansing agent.
6. **Field of study preparatory to kitchen laboratory work:** General care of the kitchen furnishings—tables, sinks, refrigerators, pantry, range, including the essentials of a good fire, laying of fire, management of drafts, and dampers; care of utensils; washing of dishes, towels, etc.; study of tables of weights and measures and abbreviations.

KITCHEN LABORATORY WORK.

1. **Experiments:** Proteids—the effects of various degrees of heat upon various proteids; carbo-hydrates, division into starches and sugars; structure of each, effects of various degrees of heat upon each; fats—structure, effects of heat, etc.; deduction of principle of cooking of each food class.
2. **Preparation of foods:** Proteids—cooking of eggs; carbo-hydrates—rice, sago, etc.; fats, chocolate; combinations of food classes—cereals, hot breads, light breads, simple cake mixtures, cookies, soups of various kinds, spring vegetables.

Food work in the Eighth Grade is given two seventy-minute periods each week during the year.

High School Courses.

FOOD WORK.

First Year.

STUDY AND RECITATION-ROOM WORK.

1. **General review of Eighth Grade work**, with further elaboration of food classification and continued study of food stuffs with reference to food materials contained, classifications and preparation for the market.
2. **Particular study of proteids:** Meats—Composition, food value, use in body, source, kinds—division into beef, pork, mutton, poultry, game; market appearance; cuts; cost; methods of cooking; methods of re-cooking each division; fish—composition, market appearance; preparations for use; methods of cooking, method of re-cooking; milk—composition, food value, use, adulterations, sterilization and preservation; products of milk—cream, butter, cheese; eggs—composition, food value, use, preservation, tests for freshness, methods of cooking; gelatine—composition, food value, use, how obtained, kinds, market appearance; method of using; principles of preparation.
3. **Study of markets:** Visits to various markets; study of cuts of meats; cost of materials; practical marketing; visits to mills and shops; buying of materials used by classes.
4. **Study of food preparation and combinations:** Necessity for varied diet; reasons for cooking foods; planning of menus with reference to food value; estimation of cost of menus; comparison of economic food value of various foods.
5. **Field of study preparatory to work in kitchen laboratory:** Continuation of work commenced in first year; care of the dining room and its furnishings.

KITCHEN LABORATORY WORK.

1. **Experiments:** Effects of heat and cold, hot and cold water, acids and salt upon proteid foods studied; further experiments upon carbo-hydrates and upon yeasts.
2. **Preparation of foods:** Proteids—Cooking meats and fish of all kinds in various ways; preparation of milk to be used as a food, including its combination with vegetables, eggs, junket, etc.; cooking of eggs in various ways; preparation of gelatine; carbo-hydrates—flour mixture of all kinds; fats—preparation of various foods by frying; combinations of food classes—breads, beverages, simple puddings, cakes, fall vegetables.
3. Assistance rendered other classes in the preparation and serving of meals.

FOOD WORK.

Second Year.

STUDY AND RECITATION-ROOM WORK.

1. **Study of Dietaries:** Balanced rations, and practical menus for use in the home.
2. **Serving of Food:** Table furnishings—including linen, silver, crystal and china; laying of table; serving of breakfast, dinner, lunch and supper; duties of host, hostess and waiter; care of table furnishings.
3. **Study of markets:** Continuation of work commenced in previous year with, in addition, the marketing for all meals served by the class; the keeping of expense accounts, and the computation of exact cost per meal per person and the total cost for one day.
4. **Study of food materials:** Fruits—use as food, value as food, use of raw fruits, use of preserved fruits; methods of preservation—drying, canning, preserving, pickling—the use of each and principles and methods involved; care of fresh and preserved fruits; salads—classes, dressings, treatment of each class, study of materials used, garnishing and serving; pastry—composition, value as food, kinds, methods of preparation; puddings—food value, palatability, usefulness, kinds, materials used, methods of preparation; cakes—composition, value as food, kinds, material used, methods of preparation, including combination of materials; ices and ice-cream—division into classes, sherbets, ices, creams, etc.; food value, materials used, methods of preparation, freezing and serving of each.
5. **Preservation and adulteration of food materials:** Preservation by means of elevation and reduction of temperature, exclusion of air, compression, drying, extraction, use of antiseptic substances, use of acids and gases, use of special preservatives; adulterations not injurious to health; use of inferior goods; increase of bulk by use of cheaper food materials; adulterations

- injurious to health, including use of colors, chemical preservatives, materials having no food value; effects of food preservatives and adulteration; remedy—knowledge of food materials.
6. **Field of study preparatory to Invalid Cookery:** Study of conditions existing in common diseases; physiological effect of various food materials; hygiene and care of the sick room; the arrangement of dietaries suitable to different conditions; serving of foods.

KITCHEN LABORATORY AND PRACTICAL WORK.

1. **Preparation of foods:** Fruits—canning, preserving, pickling, and jelly making; salads—preparation of fruit, vegetables and meat salads; oil and egg dressings; pastry—pies and puff paste; puddings—creams, baked, boiled, steamed, and custard with various sauces; cakes—loaf and layer, with various fillings; frozen desserts—ices, sherbets, ice creams of various kinds; combination of foods in the preparation of meals.
2. **Invalid cooking:** Gruels, meats, ices, drinks, broths; preparation of the invalid tray.
3. **Preparation and serving of meals:** Marketing for, preparing and serving three meals by each group of girls. A purse of \$2.50 is allowed, and from this provision must be made for six invited guests. The members of the class act as host, hostess, and waiters. Meals are served in the school dining room.

Food Work in the High School is given twice a week in seventy-minute periods, which include recitation-room work and practical work.

COURSE IN HOUSEHOLD MANAGEMENT.

Junior Year.

1. **Location of house:** Essentials—sunlight, free circulation of air, dryness; discussion of elevation of site, soil, location with regard to contamination.
2. **Selection of house:** Country house—character of soil, water supply, source of contamination; city house—condition of pavements, gutters, soil and drains.
3. **Building of house:** Materials available; conformity to use; convenient arrangement of rooms; sanitary arrangement of cellar, water supply, drainage, ventilation, lighting, heating.
4. **Drainage and plumbing:** Canons of good house drainage—application in selection or building of house; qualities of a good system—location of fixtures, arrangement, use and care of various pipes and fixtures.
5. **Water supply:** Necessity for absolute purity; city supply; individual supply including advantages and disadvantages of various kinds of wells and cisterns, their use and care; filtration and practical tests of condition of water.

6. **Ventilation:** Necessity for pure air; objects of ventilation; real ventilators; makeshift ventilators; ventilation of various rooms and parts of the house.
7. **Heating:** Objects; methods, including a discussion of use of hot air, steam, and hot water; stoves and grates; average temperature of various rooms.
8. **Lighting:** Objects; necessity for supply of air; methods, including use of kerosene, gas, electricity; care of lighting apparatus; comparison of value of various methods.
9. **Furnishing:** Fundamental principles of good furnishing; effect of furnishing upon health, comfort, and development of family; consideration of floors, walls, windows with reference to use; finish—materials used, choice of color, designs, etc.
10. **Furnishing and care of different rooms of house:** Kitchen—Furniture, floor, walls, windows, sink, cabinets, tables, cupboards, lights, pantry; special furniture that contributes to comfort, such as high stools, bins, boxes, jars, etc.; care of all furniture including daily and weekly cleaning, and annual cleaning and renovating of walls and floors; dining-room—floors, windows, furniture, including table furnishings; care, weekly sweeping, dusting, crumbing after meals, lighting, heating and airing; sleeping rooms—floors, windows, walls, closet, furniture, including furnishings of bed; care, weekly cleaning, removal of soiled clothes, making of beds, removal of slops, dusting, airing, heating and lighting; bath-room—floors, walls, windows, cupboard, fixtures (simple, easily kept clean, in sight); care, airing and ventilation, thorough cleaning and flushing, use of disinfectants and deodorants.
11. **Planning of house of moderate size,** using principles worked out previously; furnishing of the same, with selection of color schemes and furniture adapted to use of house.

The course in Household Management is given during the first half of the Junior year, three seventy-minute periods each week.

DRESSMAKING.

Junior Year.

1. **Underskirt.** Measurements taken and pattern for skirt drafted; skirt made of any suitable material.
2. **Shirt waist.** Measurements taken for shirt waist; pattern drafted; cotton shirt waist made.
3. **Summer dress.** Made of dimity, muslin or other thin material; shirt waist pattern and skirt pattern drafted and used.
4. **Woolen or cotton shirt waist suit.** Shirt waist pattern used; drafted skirt pattern used.

Suit cut, fitted, trimmed, and finished. Dressmaking is given during the last half of the Junior year or in the Senior year, three seventy-minute periods each week.

SUMMARY OF COURSE IN DRAWING AND COLOR WORK.

The work in drawing and color is begun in the first year and carried through the eight grades of the public school and two years of the High School. After completing the two years required in the High School, pupils of marked ability, who are desirous of doing so, are allowed to continue the work along special lines.

Free hand cutting as a means of expression is begun in the first year and continued through the third year of the grades; it includes cutting from objects, life, memory and imagination.

Free hand drawing from still life, life, nature, memory and imagination, is begun in first year and continued through the entire school course.

Design is begun in first year by making simple borders, surface patterns, etc., of colored sticks, paper tablets, natural leaves, flowers, etc., and is continued throughout the school course. The work is so arranged that the necessary qualities of good design, strength, simplicity, beauty and truth, and the underlying principles of the anatomy of pattern, order, proportion, repetition, radiation, symmetry, balance, etc., are of gradual and systematic growth.

Applied design. The work in applied design includes general ornament, all kinds of surface patterns, borders, designs for tiles, pressed brick, metal work, hard wood floors, book-covers, prints, wall papers, rugs, oil cloth, stained glass, china, interior decoration, etc., and in the case of boys, designs for articles to be made and decorated in the manual training.

Composition. The work in design is supplemented by training in the principles of composition as applied in straight and curved line designs, landscapes, etc., through the entire course.

Historic Ornament. The historic styles are studied and the distinguishing features of each are applied in original designs. This work begins in the fourth year with the study of Egyptian art, and is followed by Greek and Roman in the fifth year. Byzantine in the sixth year, Saracenic in the seventh year, Gothic in the eighth year, Renaissance and modern art in High School.

Nature work. Begins in first year and forms a large and important part of each year's work, each season furnishing material for both drawing and color.

Botanical Drawing. Begins in the first year and is carried on systematically from window gardens, wild flowers, etc. In the fourth year conventionalization is taken up, and later the use of conventional forms in original designs.

Perspective. Free hand perspective is taught from the beginning of the work by a careful training in drawing the true appearance of simple models, and continues throughout the course. In the seventh and eighth years the laws of perspective, and the terms, are given—these being made as simple and as few as consistent with a clear understanding of the subject.

Cast Drawing from the antique is begun in the High School and continued through the course.

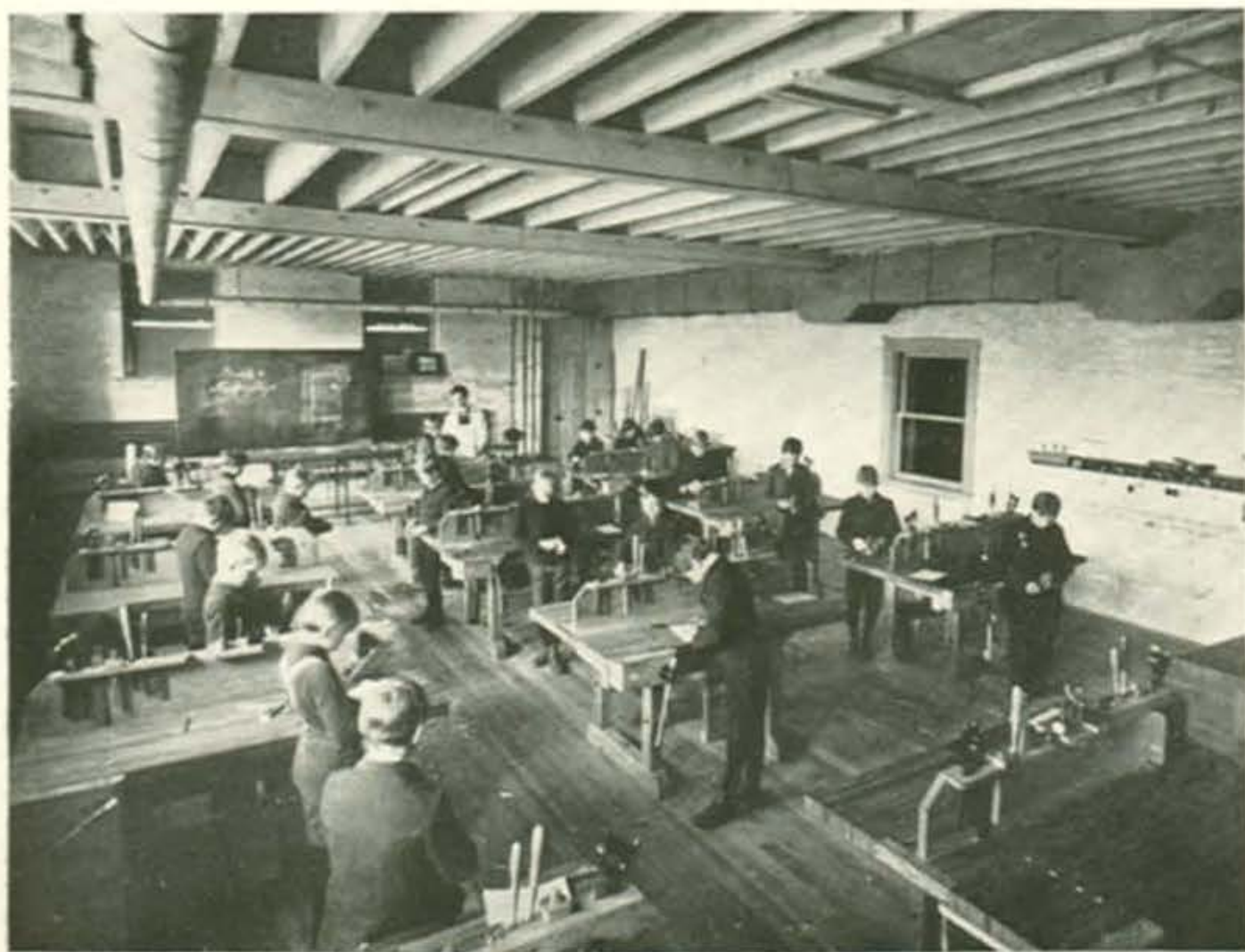
Clay Modeling. The work in drawing is supplemented during the first four years in the grades by clay modeling from objects, life, memory, etc.

Materials. Charcoal, colored crayons, pencils and Japanese brushes are used in the first year and throughout the course.

Water colors are used from third year on through course.

Pen and ink work is introduced in fourth year.

Designers' colors are used in High School for wall papers, etc.



Elementary Woodworking Room, Equipped by Students.

